DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY CHESAPEAKE
WASHINGTON NAVY YARD BUILDING 212
901 M STREET SE
WASHINGTON DC 20374-5018

IN REPLY REFER TO:

10 February 2000

MEMORANDUM FOR THE RECORD

Subj: FINDING OF SUITABILITY TO TRANSFER (FOST), NAVAL TRAINING CENTER-BAINBRIDGE (NTC-B), PORT DEPOSIT MD

Ref:
(a) Final Environmental Baseline Survey for the Naval Training Center-Bainbridge (NTC-B), November 99
(b) Final Ecological Risk Reviews for Areas of Concern, 2 February 2000
(c) Close-Out Reports, Site Clean-Up and Removal Actions NTC-B (Volumes 1-8), Oct-November 99
(d) Streamlined Human Health Risk Assessment AOCs 2, 3, and 6 NTC-B, April 1999
(e) Environmental Protection Agency (EPA) Residual Risk Transmittal letters/Closeout Report review letters, 5 November 99, 24 November 99
(f) Bldg. 718 Closeout letter (Case No. 9(-1437 CE), 1 November 95
(g) Maryland Department of the Environment (MDE) Notification of Compliance Bldg. 765A, 8 December 99
(h) Inventory of Remaining Structures at NTC-B
(i) Federal Facility Compliance Agreement (FFCA) Docket No. III-FCA-CAA-008, 24 September 91, amended 9 November 92 and 30 July 98
(j) Final Analysis Report for the Mock Construction Scenario, 21 February 96
(k) MDE Draft Mock Construction Scenario comment letter, 14 February 96
(l) EPA Final Mock Construction Scenario comment letter, 21 February 96
(m) EPA FFCA Docket No. III-FCA-CAA-008 termination letter, 8 December 99
(n) Administrative Order, Docket No. III-99-008DA, 23 July 99
(o) Final Report for EPA Administrative Order Docket No. III-99-008DA, 10 December 1999
(p) EPA Administrative Order Docket No. III-99-008DA Amendment, 7 February 2000
(q) MDE NTC-B Sewage Treatment Plant Closeout letter, 16 November 1999
(r) Feasibility Study for NTC-B, September 99
(s) Remedial Investigation Report NTC-B, February 99

(t) Human and Ecological Risk Characterization IR Sites 1 and 2 Old Base Landfill and Fire Training Area NTC-B, October 99
(u) Record of Decision IR Sites 1 and 2 (Old Base Landfill and Fire Training Area NTC-B, 10 February 2000
(v) Hazardous Material/Waste and Polychlorinated Biphenyl Status for Former NTC-B, 9 July 82
(w) Final Report NTC-B Underground Storage Tank Remediation Project, 22 January 91
(x) Section 106 Memorandum of Agreement, 26 October 99
(y) EPA Region III letter: NTC-B Building 693 Closeout Report, 13 January 2000
(z) Risk Assessment Summary, Ash Disposal Area, 5 April 99
(aa) Streamlined Human Health Risk Assessment for Sludge Drying Beds, EPA Region III letter dated 13 January 2000

Encl: (1) Naval Training Center-Bainbridge Site Map
(2) Naval Training Center-Bainbridge Areas of Concern Map
(3) Final Area of Concern Status Table
(4) Deed Notices and Restrictions
(5) Old Base Landfill Operations and Maintenance Manual, April 1997

1. I have reviewed the above references and enclosures regarding the transfer of the former Naval Training Center Bainbridge, henceforth referred to as NTC-B. NTC-B is located due northeast of the Town of Port Deposit in Cecil County, Maryland. Enclosure (1) details the 1185-acre NTC-B parcel proposed for transfer that includes approximately 60 existing structures. Maryland Route 276 lies to the northwest of NTC-B, the Happy Valley Branch to the southeast, the Susquehanna River to the southwest, and Maryland Route 275 to the northeast.

2. NTC-B was constructed in 1942 as a training center for World War II Navy recruits. The facility was partially deactivated after World War II, but experienced major activity during the Korean War, beginning in 1951. NTC-B later became the host for various schools and functions, including the Naval Preparatory School, the Nuclear Power School, the Naval Reserve Manpower Center, WAVES Headquarters, and a U.S. Naval Hospital. Operations at NTC-B were reduced in 1972. NTC-B was closed in 1976; the United States has retained ownership. The Department of Labor sponsored a Job Corps Center on NTC-B with the permission of the General Services Administration, providing training in various trades from 1978 until 1990. Portions of

NTC-B are leased to and used by the Cecil County Community College Truck Driver Training School.

3. This Finding of Suitability to Transfer (FOST) presents the updated status, prior to property transfer, of Areas of Concern (AOCs) identified in reference (a). Forty-eight AOCs at NTC-B were designated to track environmental issues throughout any required environmental actions. Reference (a) provides the history of actions and status of the AOCs as of 1 September 1999. Not all AOCs at the NTC-B site required remedial actions. Reference (a) was generated to summarize visual inspections, interviews, record searches, reviews of historical aerial photographs, environmental sampling/analysis, risk assessments and remedial actions. The locations of the AOCs at NTC-B are provided in enclosure (2). Enclosure (3) summarizes the final status of all AOCs prior to transfer. Reference (b) documents that no further actions are required regarding ecological concerns at the AOCs. Reference (c) is an eight-volume report that summarizes remedial actions taken with regards various AOCs. Comparative screening values used to evaluate the environmental impacts of activities at the AOCs are based upon EPA Region III Risk Based Concentrations, or site specific background levels unless otherwise noted. Reference (d) was generated from sampling taken during the implementation of reference (a). Reference (d) was reviewed by the regulatory agencies and used to generate remedial goals that were used throughout remedial projects at NTC-B. Descriptions of the AOCs and actions taken to address them are provided in the following paragraphs.

a) AOC 1 (Lead Paint Areas): Three separate suspected lead based paint (LBP) areas were identified at NTC-B. The areas include AOC 1a (Water Towers 689 and 1054), AOC 1b (Officer Housing Area-Tome Institute), and AOC 1c (Building 720). The United States Department of Housing and Urban Development (HUD) LBP soil screening level of 400 mg/kg was used in evaluating these AOCs.

Lead in soil was detected at AOC 1a in excess of the screening standard, and was address by a remedial action as required by law. Reference (c), Vol. 7 documents remedial actions at AOC 1a that resulted in lead levels less than 400 mg/kg. Reference (b) evaluated ecological issues related to lead in soil at AOC 1a and concluded exposure for all identified assessment endpoints is likely to be minimal. Based upon the minimal ecological exposure and human health risk considerations, additional investigations and/or cleanup for AOC 1a are not necessary.

Lead was detected in soils at the dripline of the officer housing in ten samples ranging from 1,180 mg/kg to 50,900 mg/kg (average of 14,989 mg/kg) at AOC 1b. This housing was selected as a "worst case" example from the housing at NTC-B. A paint chip sample from AOC 1b detected lead at 26,800 mg/kg. In accordance with current Department of Defense (DOD) policy and consistent with Federal law, the presence of LBP will be disclosed at AOC 1b in a deed notice (refer to paragraph 5 of this FOST and enclosure (4)). Reference (b) evaluated ecological issues related to lead in soil at AOC 1b and concluded exposure for all identified assessment endpoints is likely to be minimal, therefore no further actions are required regarding ecological concerns at AOC 1b.

Sampling at AOC 1c detected lead at levels ranging up to 162 mg/kg. Reference (b) evaluated ecological issues related to lead in soil at AOC 1c and concluded exposure for all identified assessment endpoints is likely to be minimal. Based upon the minimal ecological exposure and human health risk considerations, additional investigations and/or cleanup for AOC 1c are not necessary.

AOC 2 (Former Open Salvage/Storage Yard and Coal Storage Areas): This AOC is divided into two separate AOCs. AOC 2a, the Open Salvage/Storage Yard, was used to store salvage materials while the NTC-B was operational. Sampling results detected levels of contaminants above screening values. Reference (c), Vol. 3 documents remedial actions taken to address contamination at AOC 2a. Reference (b) evaluated ecological issues related soil contaminants following remedial actions at AOC 2a and concluded exposure for all identified assessment endpoints is likely to be minimal. Based upon the minimal ecological exposure and remediation to acceptable human health risk levels, additional investigations and/or cleanup for AOC 2a are not necessary.

b) At AOC 2b, the Coal Storage Area, coal was stored near a stream along the northeast perimeter of the Base. Sampling results at AOC 2b exceed screening values. Further EPA human health residual risk calculations concluded no unacceptable human health risks were present at AOC 2b (Reference (e)). Reference (b) evaluated ecological issues related to soil contaminants at AOC 2b and concluded that exposure for all identified assessment endpoints is likely to be minimal. Based upon the minimal ecological exposure and human health risk considerations, additional investigations and/or cleanup for AOC 2b are not necessary.

c) AOC 3 (Former Pesticide Shop - Building 683): Storage and mixing of pesticides occurred in the former Pesticide Shop (AOC 3). Concerns for this AOC were with regards to potential pesticide contamination. Sampling conducted at the site confirmed the presence of pesticide and petroleum contamination above remedial goals. Reference (c), Vol. 8 documents remedial actions taken to address pesticide and petroleum contamination at this site. The remedial actions at the former pesticide shop site have restored the environmental condition of this area so that it is suitable for an unrestricted future use. Reference (b) evaluated ecological issues related soil contaminants following remedial actions at AOC 3 and concluded exposure for all identified assessment endpoints is likely to be minimal. Based upon the minimal ecological exposure and remediation to acceptable human health risk levels, additional investigations and/or cleanup for AOC 3 are not necessary.

d) AOC 4 (Polychlorinated Biphenyl (PCB) - Former Transformer Storage Yard): AOC 4 was a former electric transformer storage and service area located in the vicinity of Buildings 713 and 714. Concerns at this AOC regarded potential past PCB contamination from electrical equipment. Results of sampling at this area revealed that one sample contained a level of PCB in exceedance of the screening values. The detected PCB exceedance was only slightly above the residential Risk Based Concentration (RBC) for PCB and less than the RBC for industrial settings. Reference (e) documents EPA residual risk calculations conducted for AOC 4. Reference (b) evaluated ecological issues related to soil contaminants at AOC 4 and concluded exposure for all identified assessment endpoints is likely to be minimal. Based upon the minimal ecological exposure and EPA Human Health Residual Risk Assessments, additional investigations and/or cleanup for AOC 4 are not necessary.

e) AOC 5 (Old Base Landfill- Asbestos): This AOC is being addressed under the IR Program, and is discussed in paragraph 4.

f) AOC 6 (Former Dry Cleaning Facility, Building 718): A former dry cleaning solvent UST was removed from the site of Building 718, the former Dry Cleaning Facility in January 1990. Since evidence of leakage from the UST was observed during the removal, additional soil removals and sampling were conducted to assess the potential impact of the former UST on the surrounding soil/groundwater. Based on groundwater sampling results, the MDE issued reference (f) to close out

this site and remove monitoring wells. Approximately 200 cubic yards of soil was removed during the remedial action. In 1995, the EPA re-opened site investigations under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to address groundwater. The most recent round of sampling to address the CERCLA issues, conducted in 1998, indicated that previously detected contaminants were no longer present in groundwater above RBC screening values. Reference (b) evaluated ecological issues related to historical contaminants detected at AOC 6, and concluded that the lack of contaminants (1998 sampling) eliminated potential risk to ecological receptors. Based upon remedial actions and confirmatory sampling that demonstrated the lack of contaminant exposure to human and ecological receptors, additional investigations and/or cleanup for AOC 6 are not necessary.

g) AOC 7 (Former Gas Station, Building 756A): AOC 7 is concerned with five USTs that formerly contained various petroleum products associated with activities at Building 756A. During the 1990 removal of these USTs, evidence of leakage from the tanks was observed. In order to assess the potential impacts of this AOC on groundwater, monitoring wells were installed. Groundwater monitoring activities have been conducted from April 1993 to July 1999. Removal, closure and monitoring of the former UST sites have occurred under the cognizance of the MDE Oil Control Program (OCP). Per reference (g) MDE does not require further corrective action at this facility based on decreasing levels of dissolved hydrocarbons in groundwater and the understanding that the Navy is implementing an institutional control restricting potable use of groundwater at the site. Reference (b) evaluated ecological issues related site contaminants at AOC 7 and concluded exposure for all identified assessment endpoints is likely to be minimal. Based upon the minimal ecological exposure and site closure by MDE, additional investigations and/or cleanup for AOC 7 are not necessary.

h) AOC 8 (Background Sampling): AOC 8 was concerned with development of a background sample set. The purpose of the sampling performed under AOC 8 was to collect background information rather than to identify and quantify suspected information about a release. During sampling for this AOC, however, an elevated level of lead that was believed to be much higher than background was detected near a former small arms firing range. This detection lead to further investigation and remediation of former firing ranges noted in paragraph 3w. No further actions are required at AOC 8.

i) AOC 9 (Old Base Landfill-Groundwater): This AOC is being addressed under the IR Program and is discussed in paragraph 4.

j) AOC 10 (Rubble Landfill): This AOC concerns an MDE permitted rubble landfill which was constructed to receive rubble, including Asbestos Containing Material (ACM) resulting from the 1990-1996 building demolition project. The Rubble Landfill was identified as AOC 10. The Rubble Landfill closed in July 1996. Groundwater monitoring will occur in accordance with MDE requirements for a landfill of this type. No construction of any kind may commence or be accomplished in the Rubble Landfill without written authorization for such activity having first been obtained from the Secretary of the Maryland Department of the Environment. Maintenance of the Rubble Landfill shall be, in accordance with enclosure (4), the responsibility of the property recipient and all future successors and assigns. The Rubble Landfill currently requires a National Pollution Discharge Elimination System (NPDES) permit for groundwater discharge. This permit is non-transferable, and shall be obtained by future property recipients as a requirement of landfill maintenance. Specific text of deed restrictions related to this AOC is presented in enclosure (4).

k) AOC 11 (Fire Training Area): This AOC is being addressed under the IR Program and is discussed in paragraph 4.

l) AOCs 6, 7, 12, 13, 14, 15, 16, 35, 43, 44, 47 - UST/Aboveground Storage Tanks (AST) AOCs: A survey of USTs and ASTs was conducted as part reference (a). Following the survey, several areas were identified as being associated with former UST/ASTs. These areas were identified as AOCs 6, 7, 12 through 16, 35, 43, 44, and 47. USTs associated with AOC 6 (Former Dry Cleaning Facility) and AOC 7 (Former Gas Station) are discussed in paragraph 3f and 3g. Site investigations determined that the suspected USTs at AOC 12 (Building M) and AOC 13 (Building N) did not exist. No further actions are required regarding AOCs 12 and 13. A waste oil UST associated with AOC 14 (Building 760, Automotive Shop) was removed. Petroleum impacted soil exceeding the MDE screening level of 100 mg/kg TPH was excavated for off-site disposal. Reference (c), Vol. 6 documents confirmation sampling taken after the remedial action that indicated that no further excavation was required. Reference (e) documents EPA residual risk calculations conducted for AOC 14. Residual risk assessment calculations indicated that no further actions were required at AOC 14. Reference (c), Vol. 2 documents the removal of

ASTs from AOCs 15, 16, 35, 43 and 44. No signs of a release were noted at these areas; therefore no further actions are required regarding AOCs 15, 16, 35 43 and 44. AOC 47 was concerned with USTs discovered during excavations for the OBL borrow pit. These USTs were associated with housing that was formerly present in the area. Reference (c), Vol. 1 details remedial actions associated with these USTs. All remedial actions associated with USTs at AOC 47 have been completed: therefore no further actions are required. For the entire NTC-B, all known USTs have been removed and contaminated soils properly disposed or recycled as required by MDE regulation, therefore no further actions are required.

m) AOC 17 (Building 529)-Petroleum/Oil/Lubricants: AOC 17 included Buildings 528/529, a Fuel Oil Pump House and associated 50,000-gallon storage tank. No signs of environmental concerns were found at Building 528/529 during investigations for reference (a) therefore; no further actions are required for AOC 17.

n) AOCs 14 and 18 through 36 - Chemical Container AOCs: As a component of the site inspection conducted for reference (a), various sites where chemical containers had formerly been used were identified. Reference (c), Vol. 1 documents that these containers were properly removed and disposed off-site. Since all of the containers associated with these AOCs have been removed and no signs of releases were observed, therefore no further action is required for AOCs 14 and 18-36.

o) AOC 28 (Building 693-Water Treatment Plant): PCBs were found in the sludge and debris samples scraped from the concrete floor under electrical equipment in Building 693. Reference (c), Vol. 5 documents remedial actions taken to address PCB concerns. Remedial goals have been achieved. Reference (y) contains an EPA letter concurring that the cleanup standards have been achieved inside of Building 693, therefore no further actions are required for AOC 28.

p) AOC 34 (Building 53): Pesticides were stored at Building 53 which was formerly located near the Sewage Treatment Plant. Pesticides stored at Building 53 consisted of were low-grade granular herbicides. Reference (c), Vol .1 documents that these materials were removed. No signs of a release were observed at Building 53; therefore no further actions are required regarding AOC 34.

q) AOC 37 (Asbestos Materials): Suspected Asbestos Containing Material (SACM) is present in the remaining buildings on

NTC-B. Reference (h) is a building inventory for structures known to containing ACM at NTC-B, however, other buildings may potentially contain ACM. Provisions for deed notifications for ACM are contained in enclosure (4). Paragraph 8 contains additional information concerning asbestos. No further actions are required by the Navy, beyond notification of the property grantee for this AOC.

r) AOC 38 (Asbestos Materials-Transite pieces from demolition activities in soil): Between 1990 and 1995, 429 buildings and structures were demolished and disposed of, many of which contained asbestos in friable and non-friable forms. Several NTC-B buildings collapsed prior to the initiation of the 1990 building demolition project. The Rubble Landfill was created for the purpose of disposal of the large volume of demolition debris from the former NTC-B structures. Permitting, construction, operation, and closure of the Rubble Landfill were conducted as a part of the demolition/asbestos abatement action. Friable asbestos was removed from 335 buildings prior to demolition. The remaining buildings were demolished "as is" due to poor structural integrity. Over 400,000 cubic yards of demolition debris were placed in the Rubble Landfill.

During the demolition project the EPA contended that the demolition procedure was rendering the intact transite materials into a Friable Accessible and Damaged (FAD) asbestos material. Demolition work was held up until reference (i), a Federal Facilities Compliance Agreement (FFCA) was entered into in September 1991 by the Navy and EPA Region III. The FFCA was amended in November 1992. The FFCA established compliance dates for moving demolition debris to the Rubble Landfill, established acceptable procedures for future demolition and transport and required the Navy to prevent emissions of asbestos fibers from certain areas that contained demolition debris until the Navy removed the debris and certified that these areas contained no asbestos-containing waste material. On 1 March 1994, EPA delegated establishment of a cleanup standard and acceptance to the State of Maryland.

In July 1994, the Navy and MDE conducted site inspections of building sites to determine cleanliness, during which no visible transite was determined to be present. The MDE inspections ended in July 1995 when EPA decided to reintervene and made the determination that a CERCLA approach, with a Risk Assessment/Mock Construction Scenario (reference (j)) would be used to determine the level of cleanup for the building demolition areas. The Mock Construction Scenario was designed to evaluate the potential for asbestos fibers to become

airborne under a typical construction scenario. The results of the Mock Construction Scenario concluded that the risk associated with future residential or other land use are acceptable as compared to EPA's target risk range. In February 1996, EPA and MDE accepted the Final Analysis Report for the Mock Construction Scenario (references (k) and (l)). In July 1996, EPA informed the Navy that the Mock Construction Scenario did not address the asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) and further action would be required.

In July 1998, the Navy entered into a second amendment to the FFCA to remove additional soil containing transite chips from demolition sites where buildings with transite were located. The amendment superceded all previous amendments and focused on a standard work practice approach to become compliant with the asbestos NESHAP. Depths and bounds of soil removal were determined and agreed upon. Once this removal was completed EPA would certify and terminate the FFCA. The EPA has certified all FFCA-required excavation areas and terminated the agreement, per reference (m). However, some transite still remains in the soil of NTC-B.

While executing the FFCA, friable asbestos material in the form of Thermal Systems Insulation (TSI) was discovered in the Hospital Area and subsequently removed. As a result, on 23 July 1999 the EPA issued reference (n), an Administrative Order (AO), concerning the TSI. EPA, MDE and the Navy agreed that soil removal and restoration of approximately 6 acres in the Old Hospital Area would meet the requirements of the Administrative Order. The Navy completed all required fieldwork and submitted reference (o) on 10 December 1999 to closeout this AO. The EPA officially closed out the AO, per reference (p).

Despite the Navy's and EPA's efforts to remove friable asbestos material from the soil at the Hospital Area, it is possible that some friable asbestos material remains in the soil. Accordingly, as a precaution, engineering controls (a clay soil barrier) and institutional controls are being used to prevent potential risk to human health or the environment from any friable asbestos material that may remain in the Hospital Area soil. Enclosure (4) details the deed language to ensure that exposure to ACM materials is controlled.

s) <u>AOC 39 (Building 628 - Main Transformer Substation):</u> AOC 39 considered potential PCB contamination at the former Main Transformer Substation at NTC-B. In March 1997, as part of

the site cleanup and removal actions (reference (c), Vol. 4), extensive PCB sampling of concrete surfaces, soil, and surface stone was performed in the switchyard of the substation. Also, one capacitor was found which appeared to have leaked and created an oil stain; the remains of a small wood fire were found near the capacitor. At the location of the capacitor and fire, and at a few other selected locations in the yard, samples for both PCBs and dioxin were collected. Based on sampling results, the site was remediated for PCB contamination. (reference (c), Vol. 4) PCB cleanup levels had been set to allow future residential exposure for children in the presence of cancer-causing agents. Although levels of dioxin were not high enough to trigger removal, most dioxin locations were removed based on PCB levels detected at the same points. A 24 November 1999 EPA residual risk analysis (reference (e)) indicated that a non-cancer risk still existed after the initial remedial action. During November 99, additional soil was removed at three locations in the switchyard. Confirmation sampling indicates that desired cleanup has been achieved and reference (c), Vol. 4 has been updated to reflect the most recent cleanup action. Reference (b) evaluated ecological issues related site contaminants at AOC 39 and concluded exposure for all identified assessment endpoints is likely to be minimal. Based upon the minimal ecological exposure and remediation to acceptable human health risk levels, additional investigations and/or cleanup for AOC 39 are not necessary.

t) AOC 40 (Acid Sewage Line): AOC 40 is concerned with an acid sewage line that originated in the vicinity of the former NTC-B coal storage area. The line collected runoff from the coal storage pile and directed it to the NTC-B Sewage Treatment Plant (STP). The acid sewage line was installed to protect the former drinking water supply (a reservoir and stream) for NTC-B and the Town of Port Deposit. The coal storage pile is no longer operational and the residents no longer rely on the reservoir/stream as a source of drinking water. No releases from this AOC were noted; therefore no further actions are required regarding AOC 40.

u) AOC 41 (Temporary Backfill Monitoring Wells): AOC 41 was designed to track the status of temporary backfill monitoring wells (essentially open PVC pipe imbedded into the backfill at the former UST locations) that were installed as a result of UST removals. Since these wells were no longer required for remedial or investigative efforts they were removed. No further actions are required for AOC 41.

v) AOC 42 (Circular Concrete Structure): AOC 42, located approximately 25 feet southwest of Building 205, was identified during the site inspection of reference (a). Inspection of the structure revealed that it was most likely a former stormwater or sewer access point. As no signs of a release were observed, no further actions are required regarding AOC 42.

w) AOC 45 (Small Arms Ranges): The Small Arms Ranges were identified as AOC 45. As noted in paragraph 3h, lead was discovered during background sampling, which lead to the discovery of the three firing ranges (Buildings 204, 304 and 404). Sampling for lead associated with firing ranges at Buildings 204, 304 and 404 exceeded the screening level of 400 mg/kg. Range 104 was investigated at the same time, but no samples there exceeded the screening level. Reference (c), Vol. 7 documents remedial actions that removed approximately 7000 tons of soil for off-site disposal. Confirmatory sampling has determined that remaining lead levels are below the screening level. Reference (e) contains a closeout report comment letter for the areas under AOC 45. All lead-impacted soils at the former firing ranges have been remediated to satisfy human health standards for unrestricted residential reuse. Reference (b) evaluated ecological issues related to lead in soil at AOC 45 and concluded exposure for all identified assessment endpoints is likely to be minimal. Based upon the minimal ecological exposure and remedial actions to meet human health risk considerations, additional investigations and/or cleanup for AOC 45 are not necessary.

x) AOC 46 (Coal Ash Disposal Pit): AOC 46 was discovered as a result of the excavation of a soil "borrow pit" used to provide fill and capping materials for repair of the Old Base Landfill. During the operation years at the NTC-B, coal ashes from the heating plants were disposed in this area of the base. Upon discover of the ash area, concerns were raised about the potential for metals contamination to exist in the ash, or to have leached from the ash into lower soils. Soil and ash samples were collected and analyzed, and only iron and arsenic were found to exceed EPA Region III RBCs. At that point EPA advised that cleanup of this area would not be considered a CERCLA action. Testing of the coal ash did indicate that TPH contamination did exist in the soil in excess of the MDE standard of 100 mg/kg. As a result a remedial action was initiated in the fall of 1998 and completed in the spring of 1999. Reference (c) Vol. 2 documented through confirmation sampling that cleanup levels were achieved at AOC 46. A risk assessment, reference (z),

was performed by the Navy which further documented that the levels of iron and arsenic observed earlier in the project did not represent an unacceptable human health risk. Because this action was performed in accordance with MDE OCP requirements rather than as a CERCLA action, ecological evaluation of this site was not required. No further investigation or remedial actions are required for AOC 46.

y) AOC 48 (Sewage Treatment Plant (STP): The STP serviced Navy operations at the NTC-B from approximately 1942 to 1976 and provided service to the Job Corps until 1990. The STP was abandoned after the Job Corps Center closed in December 1990. The STP formerly contained a grit chamber, two sludge digesters, four clarifiers, three trickling filters, a distribution box, a recirculation pump station, a chlorine contact chamber, and four sludge drying beds. In February 1994, the sludge digesters were emptied and fenced in, and two of the four sludge drying beds were demolished. The remaining treatment units at the STP contained liquid and solid residue. In September 1996 the remaining solid and liquid residue from the abandoned STP were properly disposed and remaining structures were demolished. Per reference (q) final inspection of the demolition project by the MDE determined that the project has been successfully completed accordance with the approved permit and the conditions therein. By receipt of reference (q) MDE informed the Navy that the STP project file has been closed and the Navy is released from any further obligation for this permit. Reference (aa) is an EPA Streamlined Human Health Risk Assessment for the STP that concluded that no unacceptable risks are present that would preclude future use as a residential site. No further actions are required for this AOC.

4. The Navy identified two sites at NTC-B to be addressed through the Navy Installation Restoration Program, IR Program Site 1-Old Base Landfill (OBL) and IR Program Site 2-Fire Training Area (FTA). The following paragraphs summarize the actions taken and the current status of the IR sites.

a) IR Program Site 1-Old Base Landfill: The OBL was an unlined solid waste landfill which received municipal wastes and unused pesticides from the 1940s to 1976. Four liquid disposal pits were located at the OBL. Records of disposal of potentially hazardous wastes were not kept. After NTC-B closed, transite-clad (a concrete building material containing asbestos fibers) building demolition material was placed on the northern end of the landfill and covered with soil. The

areal extent of the historical disposal activities was approximately 15 acres.

By 1994, the landfill site had become overgrown with vegetation such as trees and shrubs. An Interim Remedial Measure (IRM) was conducted in 1994-1995 that resulted in the clearing of vegetation from the landfill, a consolidation of waste materials from the outlying areas of the landfill, and disposal of materials from the FTA site. After completion of these actions, the OBL was capped to prevent future infiltration of water that could transport contaminants from the landfill.

References (r)-(t) provide details of the investigations at the OBL. Reference (u) is the Record of Decision concerning remedial actions for the OBL site. Human Health Risk Assessments (HHRAs) conducted for the OBL indicated that after the IRM actions, a noncancer risk from ingestion of iron and manganese in groundwater currently remains at the OBL site. In addition, chlorobenze was also detected in excess of Safe Drinking Water Act Maximum Contaminant Levels during 1999 sampling. To address risks, use of groundwater at the OBL will be restricted by institutional controls, as a part of NTC-B wide groundwater restriction on potable groundwater uses. The NTC-B wide groundwater restriction shall not prevent the use of groundwater for non-potable uses. The institutional controls shall be achieved through the use of deed restrictions as detailed in enclosure (4). In accordance with CERCLA 121(c), since waste materials will remain at the site, reviews of the remedial actions shall occur at least once every five years. Groundwater shall also be monitored annually for a minimum of a five-year period to evaluate long-term groundwater conditions. At the end of the five-year monitoring period, representatives from the EPA and Navy shall evaluate requirements for further actions at the OBL. Because historical landfilled materials are still present at the OBL, a restriction as detailed in enclosure (4) shall also be placed into the deed to prevent any intrusive activities into the landfill cap system. Beginning on 1 January 2005, operation and maintenance of the landfill cap system in accordance with enclosure (5) or subsequent revisions as provided by the Navy, and shall be the responsibility of the property recipient and all future property recipients.

During the preparation of reference (a) several Areas of Concern (AOC) were identified at the IR sites. AOC 5 was concerned with asbestos containing materials placed in the OBL. As a result, groundwater, surface water and sediment

samples were collected downgradient from the OBL to evaluate whether these asbestos fibers were present outside of the landfill. No asbestos was reported above the analytical sensitivity for water and sediment analysis using the EPA 100.2 for Transmission Electron Microscopy (TEM) methodology. As no asbestos was detected, no further action regarding asbestos for AOC 5 is required.

b) IR Program Site 2: Fire Training Area: The FTA (also identified as AOC 11 on enclosure (3)) included a concrete pad, unlined drainage ditch, earthen oil/water separator pit with a clay lined floor, and numerous associated underground storage tanks (USTs). During fire training exercises petroleum products were set ablaze and extinguished. The fire-fighting training water and oil runoff flowed into the drainage ditch and oil/water separator pit. Water then discharged to Happy Valley Branch stream.

IRMs conducted in 1994-1995 included the excavation of 37,950 cubic yards of oil, debris, and pesticide-contaminated soil. Soil was transported to the OBL for disposal under the cap. Structures and part of the concrete pad were demolished and removed. Contaminated soil from the separator pit was excavated until total petroleum hydrocarbon (TPH) levels were below the MDE action level of 100 mg/kg TPH. Site restoration at the FTA consisted of placement of clean fill with hydroseeding and reconstruction of wetlands.

A 1995 HHRA, conducted prior to the IRM actions, indicated unacceptable cancer risk associated with domestic groundwater use (driven by ingestion of polycyclic aromatic hydrocarbons (PAH) and beryllium in groundwater) and noncancer risks associated with domestic groundwater use (driven by iron and manganese). In addition, the noncancer risk associated with residential soil exposures was above the acceptable range, driven by aluminum, beryllium, iron, and manganese. These metals have different target organs and were considered separately. The Navy had calculated that for the child resident risk scenario, only iron with a HI of 1.5 exceeded the 1.0 benchmark. EPA calculations of the child resident risk scenario utilizing slightly different exposure factors calculated a HI of 0.8. However, iron was not above observed, naturally occurring background concentrations for the site.

A 1999 HHRA, conducted after IRM actions, indicated a decrease in cancer risk from the 1995 HHRA due to a decrease in PAH concentrations. In the 1999 HHRA, noncancer risk was driven primarily by iron and manganese, which are commonly found in

the environment and may be associated with natural sources. It was not confirmed through the environmental investigations that iron and manganese in the groundwater were the result of activities at the FTA site or representative of background conditions.

Ecological risks at the FTA were inferred for piscivorous birds and omnivorous mammals (only) based on sampling results of sediment and surface water and food-chain modeling. Reductions in hazard quotients (HQ) for most ecological risks were noted from 1997-1999 data.

References (r)-(t) provide details of the investigations at the FTA. Reference (u) is the Record of Decision for remedial actions at the FTA site. Human Health Risk Assessments (HHRAs) conducted for the FTA indicated that after the IRM actions, a noncancer risk due ingestion of iron and manganese in groundwater currently remains at the FTA site. To address this risk, groundwater at the FTA is recommended for institutional controls, as a part of NTC-B wide groundwater restriction on potable groundwater uses. The NTC-B groundwater restriction shall not prevent the use of groundwater for non-potable uses. The institutional controls shall be achieved through the use of deed restrictions as detailed in enclosure (4).

5. Lead Based Paint: Because the construction of NTC-B improvements occurred prior to 1978, the presence of LBP is assumed in all structures at NTC-B. March 1997 testing for LBP on housing units had positively identified the presence of LBP on existing exterior surfaces and in soil along the drip line of the buildings (paragraph 3a). In accordance with State of Maryland and U.S. Housing and Urban Development (HUD) guidelines, if children under the age of six are to occupy NTC-B structures, evaluation and remediation of lead based paint hazards may be required. Compliance by the property recipient and its successor shall be achieved through the use of deed notices as detailed in enclosure (4).

6. PCBs: Over 400 pieces of oil-filled electrical equipment were identified at NTC-B in reference (v). The survey included the collection and analysis of oil samples for PCB concentrations and identified transformers that were assumed to contain PCBs. All known Navy-owned oil-filled electrical equipment (transformers, capacitors and switches) have been removed and properly disposed from NTC-B. Remaining electrical equipment at NTC-B either does not contain a dielectric fluid, or is in operation and is the property of the electric utility company.

7. Pesticides: Pesticides were formerly stored, dispensed, used, and disposed at NTC-B. The areas where storage and dispensation of pesticides occurred are at the former Building 683-Pesticide Shop (AOC 3) and Building 53 (AOC 34). Disposal of pesticides was known to have occurred at the Old Base Landfill (IR Site 1). No storage or use of pesticides currently occurs at NTC-B.

8. Asbestos: Several AOCs identified in enclosure (3) are related to the asbestos cleanup actions at NTC-B and include: AOC 5 (Old Base Landfill-asbestos), AOC 10 (Rubble Landfill), AOC 37 (asbestos materials), and AOC 38 (asbestos materials-transite). The property recipient and its successors and assigns, are hereby notified that certain portions of the improvements at NTC-B are thought to contain asbestos-laden materials. Notices provided in enclosure (4) detail affected areas and responsibilities for asbestos containing materials.

9. USTs/ASTs: UST removal projects conducted from approximately 1990 to 1999 have removed over 267 tanks from 185 locations at NTC-B. The combined storage capacity of these tanks was approximately 1,000,000 gallons. Soils found to be contaminated with petroleum during the UST removals were either disposed or recycled. All known USTs have been removed from NTC-B. No further remedial actions relating to USTs are proposed or in progress. Formal Notices of Compliance, where applicable, have been received for all USTs from the MDE Oil Control Program. All known ASTs have also been removed from the NTC-B. No formal closure regulations exist for ASTs; therefore there are no formal closure notices. References (c), Vol. 1 and (w) provide details of UST removals at NTC-B.

10. Hazardous Waste Storage/Disposal Practices: During the investigations for reference (a), hazardous waste manifests were reviewed to establish where the materials that were disposed as hazardous wastes were originally stored/disposed at NTC-B. The majority of hazardous waste were collected from Buildings 101, 103, 105, and 106, the STP (Building 692), the water treatment plant (Building 693), and a barn (Building 53). Reference (a) details the locations, quantities and type hazardous wastes found during the site inspection. Reference (c), Vol. 1 documents the removal of the hazardous wastes as a routine maintenance and operations action. As no signs of a release were observed, no further actions are required regarding former hazardous waste storage/disposal.

11. Two sites on NTC-B are listed on the National Register of Historic Places: the Tome School Historic District and the Snow Hill Free Black Archaeological Site. The Tome School District

includes thirteen buildings in the southwestern corner of NTC-B. Reference (x) is a Memorandum of Agreement under Section 106 of the National Historic Preservation Act signed by the Navy, the Maryland Historical Trust (MHT) and the Advisory Council on Historic Preservation (ACHP) that provides for certain stabilization and maintenance measures for the Tome School buildings, as well as preservation easements for both historic sites.

12. Enclosure (4) details notices and restrictions that shall be incorporated into the transfer deed. Provisions shall be made in the transfer deed to ensure that after the date of transfer, a response or corrective action found to be necessary as a result of prior Navy activities on the parcel will be conducted by the United States. The United States and the MDE will be granted access to the property in any case in which a response action or corrective action is found to be necessary at NTC-B after the date of transfer by deed, or such access as is necessary to carry out a response or corrective action on adjoining property.

13. The record of information before me, which was compiled after diligent inquiry, supports the conclusion that the use of this property, in accordance with the notices and restrictions listed in enclosure (4), will not result in unacceptable risk to human health or the environment. The EPA has reviewed reference (a) and this FOST. Their comments have been incorporated or otherwise addressed. I hereby find that NTC-B is suitable for transfer, subject to the notices and restrictions identified in enclosure (4).

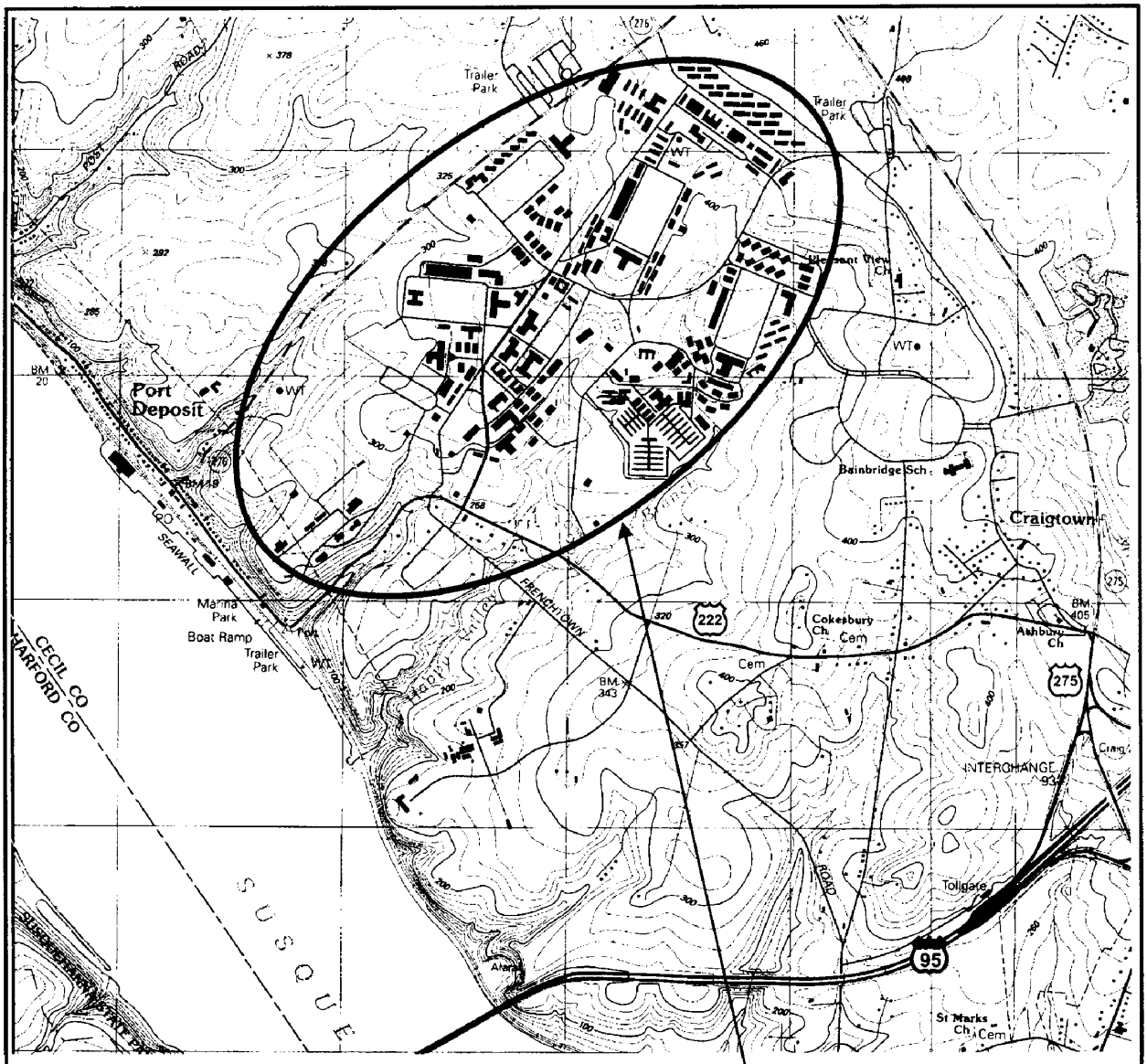
14. Reference (a) and this FOST shall be incorporated by reference in the Quitclaim Deed with the Grantee acknowledging their receipt.

Date 10 FEB 2000

P.G. McMAHON JR.
Captain, Civil Engineer Corps
U.S. Navy
Commanding Officer

Acronym List

ACHP	Advisory Council on Historic Preservation
ACM	Asbestos Containing Material
AO	Administrative Order
AOC	Area of Concern
AST	Aboveground Storage Tank
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOD	Department of Defense
EPA	Environmental Protection Agency
FAD	Friable, Accessible and Damaged
FFCA	Federal Facility Compliance Agreement
FOST	Finding of Suitability to Transfer
FTA	Fire Training Area
HHRA	Human Health Risk Assessment
HI	Hazard Index
HQ	Hazard Quotients
HUD	Housing and Urban Development
IR	Installation Restoration
IRM	Interim Remedial Measure
LBP	Lead Based Paint
MDE	Maryland Department of the Environment
MHT	Maryland Historical Trust
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NPDES	National Pollutant Discharge Elimination System
NTC-B	Naval Training Center Bainbridge
OBL	Old Base Landfill
OHM	OHM Remediation Services Corporation
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
SACM	Suspected Asbestos Containing Material
STP	Sewage Treatment Plant
TSI	Thermal Systems Insulation
UST	Underground Storage Tank



Enclosure 1. Naval Training Center - Bainbridge Site Map

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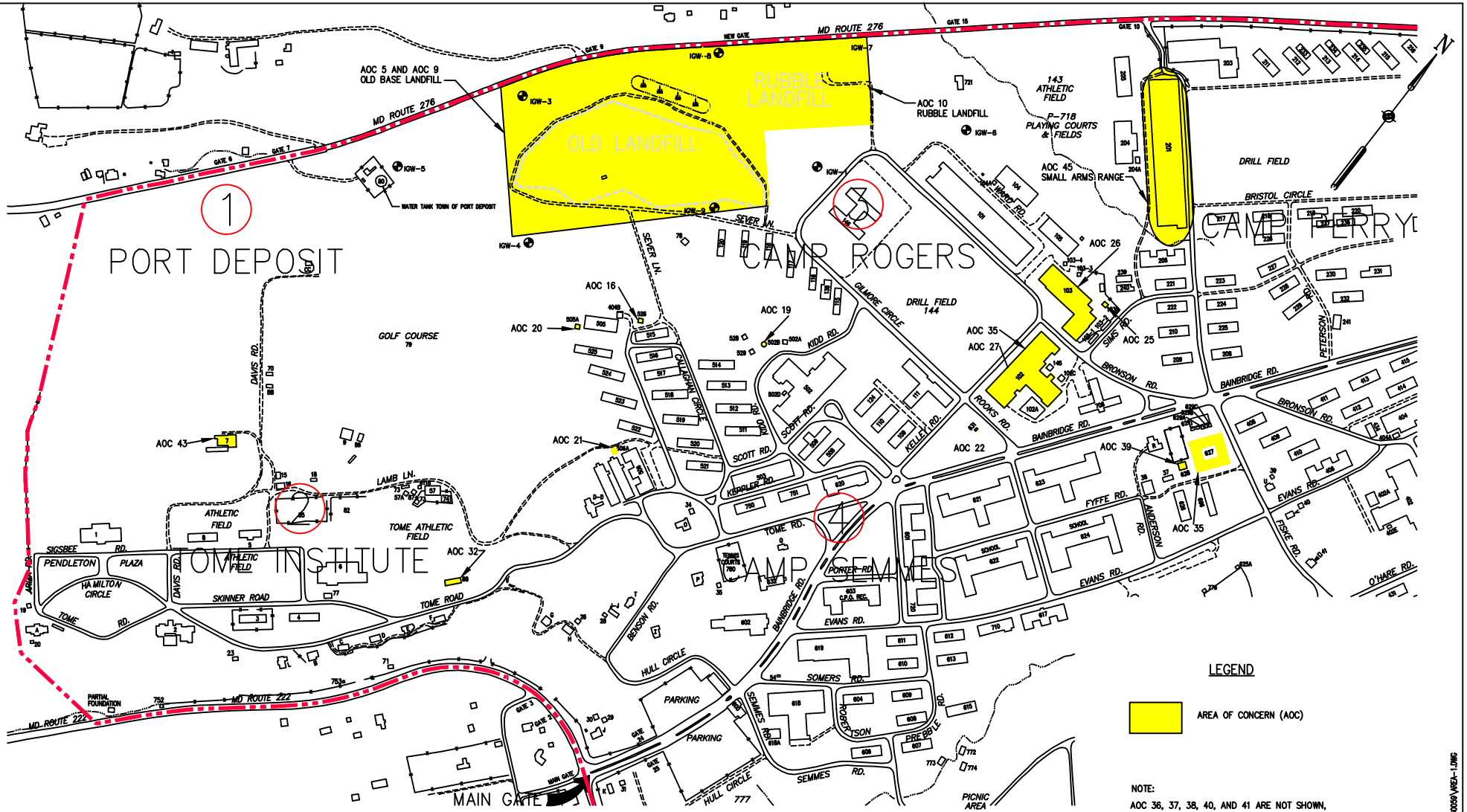
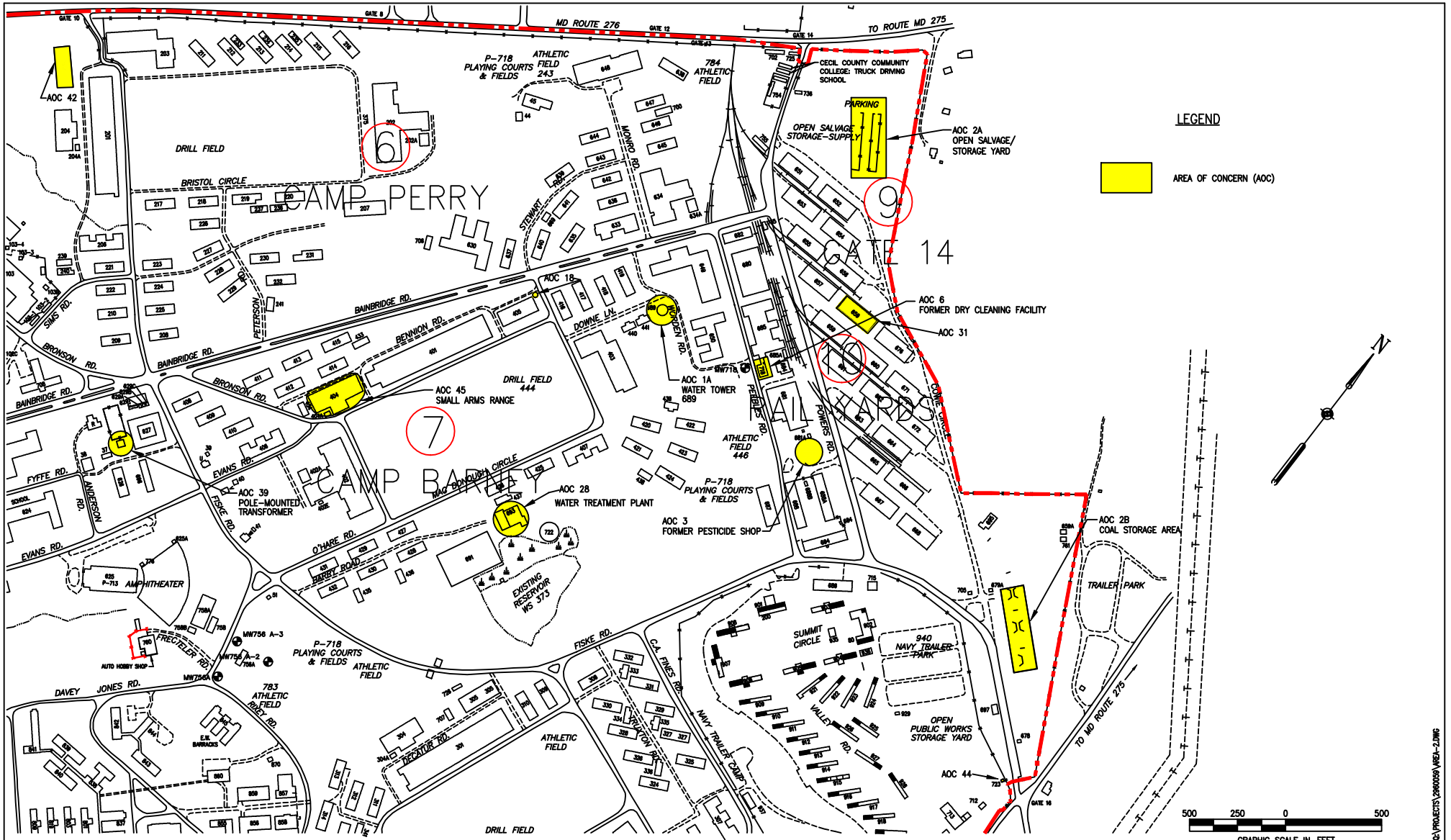


EA ENGINEERING, SCIENCE, AND TECHNOLOGY

NAVAL TRAINING CENTER
BAINBRIDGE
PORT DEPOSIT, MARYLAND

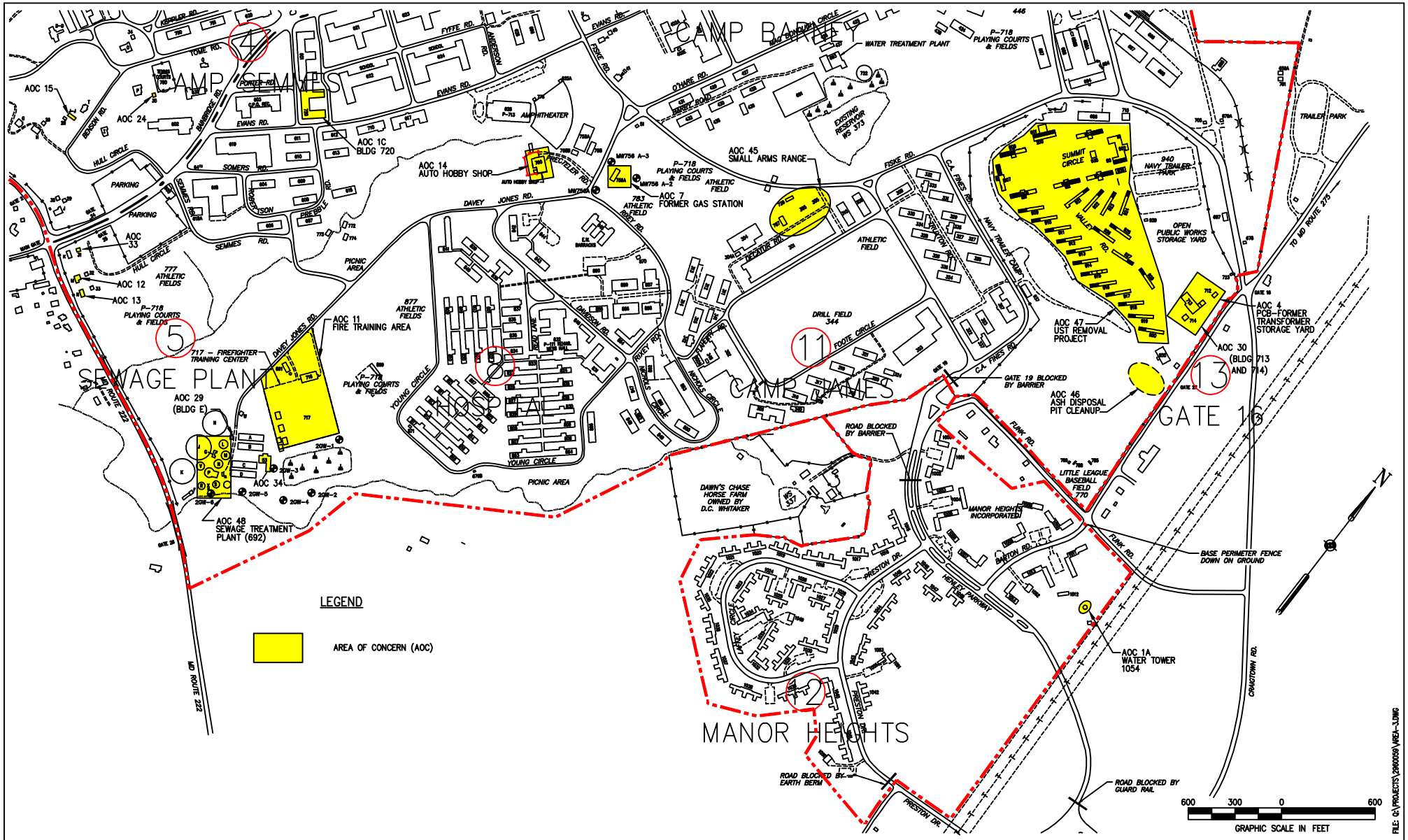
AREAS OF CONCERN AT
NAVAL TRAINING CENTER–BAINBRIDGE
(PAGE 1 OF 3)

DESIGNED BY	DRAWN BY	DATE	PROJECT NO.	FILE NAME
TJL	NTB	11-18-99	29600.59	AREA-1
CHECKED BY	**PROJECT MGR.**	**SCALE**	**DRAWING NO.**	**FIGURE**
JBJ	PJC	AS SHOWN	–	ENCL 2



EA ENGINEERING, SCIENCE, AND TECHNOLOGY	NAVAL TRAINING CENTER BAINBRIDGE PORT DEPOSIT, MARYLAND	AREAS OF CONCERN AT NAVAL TRAINING CENTER–BAINBRIDGE (PAGE 2 OF 3)	DESIGNED BY TJL	DRAWN BY NTB	DATE 11-18-99	PROJECT NO. 29600.59	FILE NAME AREA-2
			CHECKED BY JBJ	PROJECT MGR. PJC	SCALE AS SHOWN	DRAWING NO. –	FIGURE ENCL 2

FILE: G:\PROJECTS\29600599\AREA-2.DWG



EA ENGINEERING, SCIENCE, AND TECHNOLOGY	NAVAL TRAINING CENTER BAINBRIDGE PORT DEPOSIT, MARYLAND	AREAS OF CONCERN AT NAVAL TRAINING CENTER–BAINBRIDGE (PAGE 3 OF 3)	DESIGNED BY MGG	DRAWN BY NTB	DATE 11-18-99	PROJECT NO. 29600.59	FILE NAME AREA-3
			CHECKED BY JBJ	PROJECT MGR. PJC	SCALE AS SHOWN	DRAWING NO. –	FIGURE ENCL 2

ENCLOSURE (3) AREAS OF CONCERN IDENTIFIED DURING EBS AT NAVAL TRAINING CENTER-BAINBRIDGE

AOC No.	AOC Description or Location	Concern	Actions Taken & Status
1a	Lead Based Paint Areas (Water Towers 689 & 1054)	Potentially elevated lead concentrations in soils.	Task 2 field investigation conducted; Lead levels exceeded screening values; Remediated lead in soil-No further action.
1b	Lead Based Paint Areas (Officer Housing Area – Tome Institute)	Potentially elevated lead concentrations in soils.	Task 2 field investigation conducted; Lead levels exceeded screening values; Navy to disclose existence and level of lead in soil to future property owners-No further action.
1c	Lead Based Paint Areas (Bldg 720)	Potentially elevated lead concentrations in soils.	Task 2 field investigation conducted; Lead levels below screening values-No further action.
2a	Open Salvage/ Storage Yard	Potentially elevated metal and PAH concentrations at Open Salvage/Storage Yard and Coal Storage Area.	Task 2 field investigation conducted; Human Health Risk Assessment (HHRA) completed and Preliminary Remedial Goals (PRGs) developed; Removal action completed-No further action.
2b	Coal Storage Area	Historical coal storage.	Task 2 field investigation conducted; EPA Risk Assessment - No Further Action.
3	Former Pesticide Shop, Bldg 683	Historical storage/mixing of pesticides.	Task 2 field investigation conducted; HHRA completed and PRGs developed; Navy removal action completed-No further action pending
4	PCB - Former Transformer Storage Yard	Historical storage/repair of transformers; Potentially elevated PCB concentrations in vicinity of Buildings 713 and 714.	Task 2 field investigation conducted, EPA Risk Assessment - No Further Action.
5	Old Base Landfill-Asbestos (IR Site 1)	Potentially elevated asbestos concentrations migrating from Old Base Landfill.	Task 2 field investigation conducted-No further action.
6	Former Dry Cleaning Facility, Bldg 718	UST case may be reopened by CERCLA Division of MDE in order to address more stringent detection limits for chlorinated solvents.	MDE requested sampling; sampling was conducted under Task 2 field investigation; HHRA completed-No further action.
7	Former Gas Station, Bldg 756A	Open UST case with MDE, likely to be closed.	MDE requested sampling; sampling conducted under Task 2 field investigation; results sent to MDE for closure assessment-No further action.
8	Background Sampling	This “AOC” number has been assigned to the sampling performed to assess background levels in site soil.	Background sampling & analysis performed during Task 2 field investigation-No further action.

ENCLOSURE (3) AREAS OF CONCERN IDENTIFIED DURING EBS AT NAVAL TRAINING CENTER-BAINBRIDGE

AOC No.	AOC Description or Location	Concern	Actions Taken & Status
9	Old Base Landfill - Ground Water (IR Site 1)	Historical sanitary landfill containing municipal wastes, pesticides, building demolition debris.	Task 2 field investigation conducted; data used to supplement existing monitoring program; HHRA and ecological risk assessment completed-No further action.
10	Rubble Landfill	Landfill that received rubble, including asbestos-containing materials resulting from the building demolition project.	Task 2 field investigation conducted; data used to supplement existing monitoring program; landfill closed in 1996 – Monitoring, use restrictions and NPDES permit.
11	Fire Training Area (IR Site 2)	Historical releases of petroleum, solvents, etc.	HHRA and ecological risk assessment completed-No further action.
12	Bldg M	Potential UST location.	No USTs located in the vicinity of Building M during site cleanup-No further action.
13	Bldg N	Potential UST location.	No USTs located in the vicinity of Building N during site cleanup-No further action.
14	Bldg 760 (Automotive Shop)	Potential UST location; Waste oil containers, stained floors; Empty 55 gal drum.	UST waste oil tank excavated and petroleum impacted soil removed; Containers/drum removed and stained floor was addressed-No further action.
15	Bldg J-J	AST in basement.	AST removed-No further action.
16	Bldg 526	Abandoned AST in woods behind building.	AST removed-No further action.
17	Bldg 529	Former heating oil storage facility.	Additional work under Task 2 found unnecessary as investigation after Task 1 found no environmental concerns-No further action.
18	Bldg 404B	Ten empty 55 gal drums, ten empty 5 gal buckets.	Containers removed-No further action.
19	Bldg 502B	One 5 gal bucket, four 1 gal containers.	Containers removed-No further action.
20	Bldg 505A	Empty 1 gal container of sodium hypochlorite, stained soil behind western side of building.	Site inspection revealed concern to be a housekeeping issue, therefore not included in Task 2 investigation. Containers removed-No further action.
21	Bldg 506A	Several 5 and 1 gal containers, stained and cracked concrete floor.	Site inspection revealed concern to be a housekeeping issue, therefore not included in Task 2 investigation. Containers removed-No further action.

ENCLOSURE (3) AREAS OF CONCERN IDENTIFIED DURING EBS AT NAVAL TRAINING CENTER-BAINBRIDGE

AOC No.	AOC Description or Location	Concern	Actions Taken & Status
22	Bldg 631	Several 5 gal and 1 gal containers, stained floor, hole in wall at floor level.	Site inspection revealed concern to be a housekeeping issue, therefore not included in Task 2 investigation. Containers removed-No further action.
23	Bldg 529	Two oxygen gas cylinders, one empty 5 gal bucket.	Containers removed-No further action.
24	Bldg 35	One partially filled 55 gal drum.	Containers removed-No further action.
25	Bldg 103B	Empty container of paint stripper, stained floors.	Containers removed-No further action.
26	Bldg 103	Several empty 5 gal containers, one acetylene gas cylinder.	Containers removed-No further action.
27	Bldg 102	One automotive battery, one 5 gal bucket floor sealer, one 35 gal drum with unknown solid contents.	Containers removed-No further action.
28	Bldg 693 (Water Treatment Plant)	One gas can, one automotive battery, one R-22 canister, six acetylene cylinders, four fire extinguishers, floor stains in machinery room, waste dumpster full of chemical containers; Oil- filled transformer.	Floor under the oil-filled leaking capacitor remediated; Containers removed-No further action.
29	Bldg 692E	One empty 5 gal bucket, several empty 1 gal containers, one partially filled gas can, one partially filled 55 gal drum with solid contents.	Containers removed-No further action.
30	Bldg 713/714 (Heavy Equipment Shops)	One full 55 gal drum.	Containers removed-No further action.
31	Bldg 659A	Two partially filled 55 gal drums, one buried 55 gal drum.	Containers removed-No further action.
32	Bldg 88	One empty 55 gal drum.	Containers removed-No further action.
33	Bldg 31	Gas cylinders, one unlabeled full 55 gal drum.	Containers removed- No further action.
34	Bldg 53	Historical storage of pesticides.	Containers removed-No further action.
35	International Crane (Bldgs 102 & 627)	AST's, abandoned vehicles, abandoned trailers, 55 gal drums on Drill Field, stained surfaces.	ASTs, abandoned vehicles and trailers, and drums removed-No further action.
36	Cecil Comm. College	Chemical containers, stained surfaces.	Containers removed-No further action.

ENCLOSURE (3) AREAS OF CONCERN IDENTIFIED DURING EBS AT NAVAL TRAINING CENTER-BAINBRIDGE

AOC No.	AOC Description or Location	Concern	Actions Taken & Status
37	Asbestos materials (good condition)	Proper disclosure.	Locations to be disclosed in a separate document-No further action.
38	Asbestos materials (Transite pieces from demolition activities in soil)	Assessment of potential human health risks.	Disclosure statement on all remaining ACM will be made to the new owner; Buildings/structures with asbestos material have been boarded up and signs posted-Engineering and institutional controls apply for ACM. No further Navy action.
39	Oil-Filled Pole-Mounted Transformers (Bldg 628 Main Transformer Substation)	Potentially oil-filled transformers throughout NTC-B.	Transformers recovered and removed during the site cleanup; Soil under a leaking capacitor near Bldg 628 remediated-No further action.
40	Acid Sewage Line	None.	No further action.
41	Temporary Monitoring Wells	Temporary monitoring wells Throughout NTC-B.	Removal/abandonment of wells accomplished during the site cleanup- No further action.
42	Concrete Circular Structure (Bldg 205)	Unknown.	Structure investigated- No further action.
43	Bldg 7	Additional ASTs may exist at NTC-B.	AST removed during site cleanup-No further action.
44	Bldg 723	Additional ASTs may exist at NTC-B.	AST removed during site cleanup-No further action.
45	Small Arms Ranges	High levels of lead were found in one of the background samples (former location of a small arms range).	Remedial actions for lead are complete. The range near former Bldg 104 did not require remediation. No further action.
46	Ash Disposal Pit Cleanup	Coal ash discovered during Landfill Project.	Coal Ash removed; Risk assessment performed; Confirmation sampling reflected cleanup goals were attained; Additional soil was removed; Closure of this site is pending OHM Closure Report-No further action.
47	UST Removal/ Remediation Project	Additional USTs identified.	USTs identified in Task 1 removed and remediated; Additional USTs discovered during the borrow pit operations pending removal-No further action.
48	Sewage Treatment Plant (Bldg 692) Project	Liquid and solid residue in several of the treatment units.	Remaining liquid and solid residue tested and properly disposed of; STP was demolished; Site pending closure by MDE-No further action.

Enclosure 4 - QUITCLAIM DEED

THIS INDENTURE, made this 11TH day of February, 2000, by and between the UNITED STATES OF AMERICA, acting by and through the Department of the Navy, hereinafter referred to as the GRANTOR, under and pursuant to the powers and authority contained in the provisions of Public Law 99-596, and the Bainbridge Development Corporation, a body politic and corporate and an instrumentality of the STATE OF MARYLAND, whose address is One Seahawk Drive, Suite 400N, North East, Maryland 21901, hereinafter referred to as the GRANTEE.

WITNESSETH:

WHEREAS, Public Law 99-596 authorizes the Secretary of the Navy to transfer the Premises (defined below) to other government agencies upon such terms and conditions as the Secretary determines to be in the public interest; and

WHEREAS, the GRANTOR completed certain remedial actions in February, 2000, and executed a Finding of Suitability for Transfer ("FOST") dated February 10, 2000, as necessary to provide the covenant required by 42 U.S.C. § 9620(h)(3(A)(ii(I) of the Comprchcnsive Environmental Response, Compensation and Liability Act ("CERCLA").

NOW THEREFORE, the GRANTOR, for and in consideration of payment by the GRANTEE in the amount of FIVE HUNDRED THOUSAND DOLLARS ($500,000.00) in the form of three installments, as follows:

a. ONE HUNDRED THOUSAND DOLLARS ($100,000) to be paid no later than three years after date of settlement;
b. TWO HUNDRED THOUSAND DOLLARS ($200,000) to be paid no later than six years after date of settlement; and
c. TWO HUNDRED THOUSAND DOLLARS ($200,000) to be paid no later than nine years after date of settlement;

except that the amount payable to the GRANTOR may, at GRANTEE'S discretion and upon sixty (60) days' prior notice to the GRANTOR'S designated representative, elect to defer the first and second payments, under the following terms and conditions:

(1) The first and second payments, due three years and six years respectively after the date of settlement, may each be deferred to the payment date for the third and final payment, a maximum of nine years after the date of settlement;

(2) If the GRANTEE elects to defer the first payment of $100,000.00, an annual interest charge of SIX THOUSAND, FIVE HUNDRED DOLLARS ($6500.00) shall be added to the amount due for this payment, until such time as the GRANTEE has made full payment of this installment;

(3) If the GRANTEE elects to defer the second payment of $200,000.00, an annual interest charge of THIRTEEN THOUSAND DOLLARS ($13,000.00) shall be added to the amount due for this payment, until such time as the GRANTEE has made full payment of this installment;

(4) These interest charges shall be prorated on a daily basis if the GRANTEE elects to make full payment of an installment prior to the payment due date for the final installment;

(5) In the event of non-payment of any or all of these payments or of these interest charges, there shall be no reverter of title; the GRANTOR'S only remedy shall be a suit for damages or specific performance against the GRANTEE;

does, subject to any easements and encumbrances of record and subject to the reservations, exceptions, notices, covenants, conditions and restrictions expressly contained herein, remise, release and quitclaim unto GRANTEE, its successors and assigns, forever, without, except as specifically required by Title 42, United States Code at Section 9620(h)(3), and as provided herein, any warranty, express or implied, all right, title and interest to the underlying estate, buildings, structures, improvements and any other real property and related personal property situated thereon, which the GRANTOR has in and to all that certain piece, parcel or lot of land situate, lying and being in Cecil County, Maryland, known as the Former Naval Training Center, Bainbridge, Maryland (hereinafter "the Premises"), consisting of 1,185.343 acres of fee-owned land, 15.917 acres of easements, and related improvements, and being more particularly described in Exhibit A, which

is attached hereto and made a part hereof, and consists of thirty-seven (37) pages.

TOGETHER WITH, but without any limitation whatsoever, every right, title, or interest, legal or equitable, that the said GRANTOR may have pursuant to the provisions of deeds, easements, or other documents recorded in the Cecil County Land Records at Liber RRC No. 104, folio 265; Liber RRC No. 100, folio 321; Liber RRC No. 99, folio 255; Liber N.D.S. 5, folio 260; Liber RRC No. 1, folio 47; Liber RRC No. 12, folio 166; Liber or Plat SRA No. 1, folio 59; Plat SRA 1, folio 57; Liber RRC No. 5, folio 383; and the crossing railroad right of way NOy (R) 32707, May 13, 1943. MDF 12-17-57 and 31-12-63 taken from Real Estate Summary Map FEC Dwg. No. 1169917.

TOGETHER WITH all and singular the tenements, hereditaments, and appurtenances thereunto appertaining; and every right, title, or interest, legal or equitable, of the said GRANTOR of, in, and to the property herein conveyed, including all right, title, and interest which the GRANTOR may have in the banks, beds, and waters of any streams bordering the aforesaid lands and also all interest in any alleys, roads, streets, ways, strips, gores, or railroad rights-of-way abutting or adjoining said lands, and in any means of ingress or egress appurtenant thereto, excepting any rights as herein specifically reserved or excepted.

SUBJECT, HOWEVER, to existing easements recorded and unrecorded, for public roads and highways, public utilities, railroads, pipelines and sewer and water lines and drainage.

The GRANTEE, by acceptance of this Indenture for itself and its successors or assigns, agrees to comply with the following, and the GRANTEE and GRANTOR agree that the covenants of GRANTEE contained herein run with the land, that there are no third-party beneficiaries thereof, and that in the event of non-performance there shall be no reverter of title:

NOTICES, COVENANTS, CONDITIONS, RESERVATIONS AND RESTRICTIONS

1. **Notice of Environmental Condition: The Premises have been determined to be environmentally suitable for conveyance under the aforementioned FOST.** Information concerning the environmental condition of the Premises is contained in the documents known as the Final Basewide Environmental Baseline Survey for the Former Naval Training Center-Bainbridge, dated November, 1999; the FOST for Former Naval Training Center Bainbridge, dated February 10, 2000, and the Naval Training Center Bainbridge, Maryland, General Development Map (NAVFAC Drawing. No. 882049), dated 4-1-65, attached hereto and made a part hereof as Exhibit B, which consists of four (4) pages, which are incorporated herein by reference, and the receipt of which are hereby acknowledged by the GRANTEE.

2. **Covenants Required by Title 42, United States Code, § 9620(h)(3)**

(a) Pursuant to 42 U.S.C. § 9620(h)(3)(A) of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), as amended, and the CERCLA lead agent authority of the Department of Defense created by 42 U.S.C. Section 9604 and Section 9615 of CERCLA, Section 2.d. of Executive Order 12580 (52 FR 2923; Jan. 29, 1987), and the National Contingency Plan (40 CFR Section 300.5), subject to limitations otherwise delineated in this Deed, GRANTOR, in consultation with the United States Environmental Protection Agency, has determined that the Premises are Suitable for Transfer, and that all remedial action necessary to protect human health and the environment with respect to any such hazardous substance remaining on the property has been taken before the date of settlement, and any additional remedial action found to be necessary after the date of settlement shall be conducted by the GRANTOR.

(b) Accordingly, the GRANTOR shall timely:

(1) assess, inspect, investigate, study and remove or remediate, as appropriate, the release or threatened release of a hazardous substance, pollutant or contaminant, from or on the Premises in accordance

with and to the extent required by applicable federal, state and local laws; and

(2) settle or defend any claim, demand, or order made by federal, state or local regulators or third parties in connection with any release or threatened release of a hazardous substance, pollutant or contaminant, from or on the Premises in accordance with and to the extent required by applicable federal, state and local laws.

(c) The GRANTEE or any successor, assignee, or transferee of the GRANTEE shall:

(1) Notify GRANTOR in writing within ninety (90) days after learning of the existence of any previously unidentified condition at the Premises which suggests a response action is necessary, or, within ninety (90) days after receiving notice of a claim by federal, state or local regulators, or other third parties, of the existence of any condition at the Premises that suggests a response action is necessary. If GRANTEE or any successor, assignee, or transferee of the GRANTEE is served with a complaint or written notice of a claim by federal, state or local regulators, the served party shall provide GRANTOR with a copy of such document no later than fifteen (15) days following service of such document;

(2) Furnish GRANTOR copies of pertinent papers the GRANTEE or any successor, assignee, or transferee of the GRANTEE receives; and

(3) Provide, upon written request of GRANTOR, reasonable access to the records and personnel of the GRANTEE or any successor, assignee, or transferee of the GRANTEE for purposes of defending or resolving the need for additional response action.

(d) For purposes of 42 U.S.C. Section 9620(h)(3), the status of the GRANTEE or any successor, assignee, or transferee of the GRANTEE, as an operator after the transfer will not make it a potentially responsible party nor relieve the GRANTOR of its obligations under this Deed and 42 U.S.C. Section 9620(h).

(e) Further, the GRANTOR shall timely:

(1) assess, inspect, investigate, study, and remove or remediate, as appropriate, the release or threatened release of petroleum or a petroleum derivative, from or on the Premises, caused by Department of Defense activities at the Premises in accordance with and to the extent required by applicable federal, state and local laws; and

(2) settle or defend any claim, demand, or order made by federal, state or local regulators or third parties in connection with a release or threatened release of petroleum or a petroleum derivative, from or on the Premises, caused by Department of Defense activities at the Premises in accordance with and to the extent required by applicable federal, state and local laws.

(f) The GRANTEE or any successor, assignee, or transferee of the GRANTEE upon learning of the existence of any previously unidentified release or threatened release of petroleum or petroleum derivative from or on the Premises, that may have been caused by Department of Defense activities at the Premises, will notify GRANTOR by following the notification procedures set forth above.

3. **Definitions**. For purposes of Paragraphs 2. and 3., the following terms have the meanings indicated below:

(a) "release," "threatened release," "hazardous substance," "pollutant," "contaminant," "removal," "remedial action," and "response" have the meanings given such terms under CERCLA and U.S. EPA regulations implementing CERCLA.

(b) "Department of Defense activities" means the Department of Defense's: construction, installation, placement, operation, maintenance, use, misuse, abandonment of or failure to maintain the buildings and equipment and land at the Premises; or failure to satisfy any otherwise legally applicable obligation to investigate or remediate any environmental conditions existing at the Premises. "Department of Defense activities" does not mean the release or threatened

release of a hazardous substance, pollutant, contaminant, petroleum or a petroleum derivative, to the extent that GRANTOR shows that the release or threatened release is caused or contributed to by the GRANTEE or any of its successors, assignees, or transferees.

(c) "Action. . . arising out of any claim for . . . property damage" includes, but is not limited to, any judicial, administrative or private cost recovery proceeding brought (1) for response costs arising under CERCLA, (2) for costs incurred to enjoin or abate the presence or migration of contamination from or on the Premises under the Resource Conservation and Recovery Act ("RCRA"), or (3) for costs incurred to comply with the requirements of similar federal or state laws and regulations (or the laws of any political subdivision of the state) which arise from environmental conditions at the Premises.

(d) "Environmental condition(s)" means any hazardous substance, pollutant or contaminant, including hazardous waste or hazardous constituent, petroleum or petroleum derivative disposed of, released or existing in environmental media such as soil, subsurface soil, air, groundwater, surface water or subsurface geological formations at levels above background.

4. **In General**

(a) The GRANTEE, and any of its successors, assignees, or transferees, may each implement or enforce the terms of Paragraph 2. in their own right at their own discretion without obtaining permission from or joining any of the others.

(b) Prior to taking any action or reaching any final settlement under Paragraph 2. that could adversely impact GRANTEEs', or any of its successors', assignees', or transferees', use of the Premises, the GRANTOR shall consult with GRANTEE to minimize any such impact.

(c) Nothing in Paragraph 2. creates rights of any kind in any person or entity other than: (a) the

GRANTOR and (b) GRANTEE or any successor, assignee, or transferee of the GRANTEE.

5. **Presence of Asbestos**

To the best of the GRANTOR'S knowledge, there are sixty (60) remaining structures on the Premises. A list of these structures is presented in Exhibit C, which is attached hereto and made a part hereof, and consists of two (2) pages. The thirty-nine (39) structures known to contain friable and/or non-friable asbestos are marked with an asterisk beside them on the list in Exhibit C. The doors and windows of all but one have been boarded-up and signs have been posted to warn any intruder that an asbestos hazard is present and that respirators and protective clothing are required in the area. One of the remaining asbestos containing structures is in such poor structural condition that it could not be totally secured (i.e. collapsed roof). Because the majority of the remaining sixty (60) structures are in very poor structural condition, the GRANTEE is hereby given warning that dangerous conditions exist in all remaining structures and that conditions hazardous to health and safety are present in all remaining structures.

The following "Notice of the Presence of Asbestos - Warning" is given in accordance with 41 Code of Federal Regulations Part 101-47.304-13: The GRANTEE is warned that the remaining structures on the Premises listed in Exhibit C and marked with an asterisk have asbestos-containing materials both on the exterior and/or in the interior. Unprotected or unregulated exposures to asbestos in product manufacturing, shipyard, and building construction workplaces have been associated with asbestos-related diseases. Both the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) regulate asbestos because of the potential hazards associated with exposure to airborne asbestos fibers. Both OSHA and EPA have determined that such exposure increases the risk of asbestos-related diseases, which include certain cancers and which can result in disability or death.

The GRANTOR is in compliance with the Federal Facility Compliance Agreement, Docket No. III-FCA-CAA-008, dated July 30, 1998, with respect to the cleanup of building demolition sites on the Premises. However, some regulated asbestos containing materials and asbestos containing waste material, including chips of transite (an asbestos containing waste material) and Thermal Systems Insulation (a friable asbestos material) remain in the soil of the Premises. GRANTEE covenants and agrees, on behalf of itself, its successors and assigns, that it will comply with all Federal, state, and local laws relating to the handling and disposal of asbestos-containing waste materials, including transite chips and transite demolition debris, in its use and occupancy of the Premises.

The GRANTEE, its successors and assigns, are hereby warned and do acknowledge that certain portions of the improvements on the Premises are thought to contain asbestos-laden materials. The GRANTEE, by acceptance of this Quitclaim Deed, covenants and agrees, for itself, its successors and assigns, that in its use and occupancy of the Premises (including demolition and disposal of existing improvements) it will comply with all applicable Federal, state and local laws relating to asbestos and that the GRANTOR assumes no liability for damages for personal injury, illness, disability or death to the GRANTEE, or to GRANTEE'S successors, assigns, employees, invitees, or any other person, including the general public, arising from or incident to the purchase, transportation, removal, handling, use, disposition, or other activity causing or leading to contact of any kind with asbestos on the Premises, after the date of this Indenture, whether the GRANTEE, its successors or assigns has properly warned or failed to properly warn the individual(s) injured.

6. **Lead-Based Paint**

All structures remaining on the Premises are presumed to have lead-based paint both on the exterior and/or in the interior because they were constructed prior to 1960. There are nineteen (19) former residential quarters (seven (7) are historical) on the Premises. The presence of lead-based paint in the soil immediately adjacent to the houses has been confirmed by Navy sampling efforts. Therefore, a formal lead paint "inspection" and "risk assessment" have not been performed by the GRANTOR. The nineteen

(19) former residential quarters have been boarded up and signs have been posted to warn any intruder that lead-based paint is present.

GRANTEE is hereby given a "**Lead Warning Statement**" for the nineteen (19) houses: The GRANTEE acknowledges the presence of lead and lead-based paint hazards in the remaining nineteen houses on the Premises. The nineteen (19) houses may present exposure to lead from lead-based paint that may place young children at risk of developing lead poisoning. Lead poisoning in young children may produce permanent neurological damage, including learning disabilities, reduced intelligence quotient, behavioral problems, and impaired memory. Lead poisoning also poses a particular risk to pregnant women. The GRANTEE hereby acknowledges the required disclosure, in accordance with the Residential Lead-Based Paint Hazard Reduction Act of 1992, 42 U.S.C. Section 4852d (Title X), of the presence of any lead-based paint and/or lead-based paint hazards in target housing constructed prior to 1960. This disclosure includes all available records and reports pertaining to the lead-based paint and/or lead-based paint hazards in the Information Repositories at the Port Deposit and Elkton Branches of the Cecil County Library; and, the opportunity to conduct a risk assessment or inspection of the nineteen houses prior to the conveyance of the Premises. The GRANTEE hereby acknowledges receipt of EPA747-K-94-001 (May 1995), "Protect Your Family From Lead In Your Home."

The GRANTOR transfers any abatement action to the GRANTEE. This transfer of abatement action is permissible in accordance with 42 U.S.C. Section 4852d (Title X) and 24 Code of Federal Regulations Part 35, Subpart E, "Elimination of Lead-Based Hazards in Federally Owned Properties Prior to Sale for Residential Housing". The GRANTEE covenants and agrees that lead-based paint hazards in the target housing constructed prior to 1960 will be abated in accordance with Title X before use and occupancy as a residential dwelling. Considering the poor structural condition of most of the units, a lead abatement effort would essentially become a major renovation for each unit.

The GRANTOR will not implement any further control and abatement measures prior to or following transfer of the property.

GRANTEE covenants and agrees, on behalf of itself, its successors and assigns, that it will comply with all Federal, state, and local laws relating to lead-based paint in its use and occupancy of the Premises (including demolition and disposal of existing improvements). The GRANTEE shall hold harmless and indemnify the GRANTOR from and against any and all loss, judgement, claims, demands, expenses, or damages of whatever nature or kind which might arise or be made against the GRANTOR as a result of lead-based paint having been present on the Premises herein described, after the date of this Indenture. Improvements on the Premises were constructed prior to 1978 and, as with all such improvements, a lead-based paint hazard may be present.

7. **Wetlands Covenant**

Pursuant to Executive Order 11990, "Protection of Wetlands," the GRANTEE hereby covenants that no development will occur on wetlands, nor will the vegetation or hydrology of wetlands be altered in any way or by any means or activity on the property conveyed by this document to the GRANTEE, its successors and assigns, except as provided by applicable Federal, state, and local laws and regulations regarding the identification, protection, and development of wetlands.

8. **Archaeological and Historic Preservation Covenant**

The Tome School Historic District and the Snow Hill Archaeological Site, which are located on the Premises, are listed in the National Register of Historic Places. A PROTECTIVE EASEMENT to insure long term preservation of their historic features has been developed as part of an agreement between the GRANTOR and the Advisory Council on Historic Preservation. This PROTECTIVE EASEMENT is attached hereto and made a part hereof as Exhibit D, which consists of nine (9) pages. The GRANTEE, by acceptance of this Quitclaim Deed, covenants and agrees, for itself, its

successors and assigns, that in its use and occupancy of the Premises it shall adhere to the requirements of Exhibit D.

9. **Rubble Landfill**

The Rubble Landfill is described in Exhibit E, which is attached hereto and made a part hereof, and consists of two (2) pages, and in a NOTICE recorded among the Land Records of Cecil County in Liber 334 at Folio 249. The Rubble Landfill includes five (5) groundwater monitoring wells, as shown on Exhibit F, which is attached hereto and made a part hereof, and consists of five (5) pages.

GRANTOR shall continue to inspect, maintain and monitor the Rubble Landfill in accordance with Maryland Laws and Regulations for landfills through July 31, 2001. The GRANTEE, its successors and assigns, shall afford the GRANTOR access to the Premises as necessary to complete inspections, maintenance, and monitoring.

GRANTEE shall diligently apply for a new State of Maryland Groundwater Discharge Permit for the Rubble Landfill by January 1, 2001. Beginning August 1, 2001, the GRANTEE, its successors and assigns, shall be responsible for inspecting, maintaining and monitoring the Rubble Landfill in perpetuity in accordance with Maryland Laws and Regulations for landfills if such permit has been granted. In the event the GRANTEE, has not applied for a Groundwater Discharge Permit by January 1, 2001, the GRANTEE shall compensate the GRANTOR in the amount of $8,000 per month beginning August 1, 2001, until the appropriate permit is obtained by the GRANTEE.

GRANTEE IS HEREBY NOTIFIED that no construction of any kind may commence or be accomplished in the Rubble Landfill without written authorization for such activity having first been obtained from the Secretary of the Maryland Department of the Environment. GRANTEE, by acceptance of this Quitclaim Deed, covenants and agrees, for itself, its successors and assigns, that in its use and occupancy of the Rubble Landfill on the Premises, it shall not cause air, land, or water pollution, public health hazards or

nuisances; that it will maintain the sediment basins and storm water drainage channels in good working condition in order to guarantee the integrity of the Rubble Landfill; that it will not permit the synthetic cap to be compromised or penetrated by any means including roots; that if the synthetic cap is damaged or compromised, it will be repaired immediately to the satisfaction of the Maryland Department of the Environment, Waste Management Administration; and that any areas of eroded final soil cover on the Rubble Landfill shall be patched and reseeded and reestablished promptly as they occur.

10. **Old Hospital Area**

The Old Hospital Area (Parcel 12-19-S) is described in Exhibit G, which is attached hereto and made a part hereof and consists of one (1) page. Monuments have been placed at the corners of Parcel 12-19-S. The Parcel is not designated as an asbestos disposal area. In the early 1990s, the Navy demolished buildings in the Old Hospital Area. The demolition disturbed more than one cubic meter of "regulated asbestos-containing material," as defined in 40 Code of Federal Regulations ("C.F.R.") Section 61.141 (1999). Some pieces of Thermal Systems Insulation, which is "friable asbestos material" pursuant to 40 C.F.R. § 61.141 (1999), may remain in the soil following building demolition and twelve (12) inches of soil removal. A six (6) inch layer of clay-type soil was placed on top of the excavated area and another six (6) inches of soil of sufficient quality to promote a vegetative cover was put on top of the clay-type soil, bringing the excavated area to grade.

The following restriction is imposed with respect to the proper handling and disposal of any soil removed below the clay-type soil layer in Parcel 12-19-S. The removed soil is considered an Asbestos Containing Waste Material (ACWM) and must be handled and disposed of in the same manner as the owner or operator of the original demolition would be required to do by the National Emission Standard for Asbestos, 40 C.F.R. Part 61, Subpart M (1999), as amended. The disturbed clay-type soil layer must be replaced if penetrated due to construction. This use restriction does not ban land use of Parcel 12-19-S and in fact

offers several options for its use that would not disturb the clay-type soil layer.

Any excavation that disturbs the clay-type soil layer in Parcel 12-19-S in the Old Hospital Area, as described in Exhibit G to this Quitclaim Deed, constitutes a Friable Asbestos Project in accordance with Maryland Department of the Environment definitions. Any activities which penetrate into or remove soil from beneath the clay-type soil layer are subject to applicable National Emission Standard for Asbestos, 40 Code of Federal Regulations, Part 61, Subpart M (1999), as amended.

GRANTEE, its successors and assigns may comply with the foregoing using alternative methods as allowed by law. For example, under federal regulations in effect in February 2000, 40 C.F.R. 61.150(a)(4) (1999), an owner or operator of a demolition operation may use an alternative emission control method that has received prior approval from the Administrator of U.S. EPA according to the procedure described in 40 C.F.R. 61.149(c)(2) (1999).

11. **Groundwater and Monitoring Wells**

Pursuant to the Safe Drinking Water Act, 42 United States Code Sections 300f-300j-26, groundwater at the Premises is not suitable for consumption as potable water without treatment. To the best of the GRANTOR's knowledge, use of the groundwater for industrial uses such as non-contact cooling water is not so precluded. GRANTEE hereby covenants, for itself, its successors and assigns, that any groundwater wells or other use of groundwater located on the Premises will comply with all applicable Federal, state, and local requirements relating to groundwater use. In addition, in the three (3) Supplemental Drinking Water Restriction areas described in Exhibit F, groundwater shall not be used for drinking water unless (1) the concentration of manganese has been reduced to three hundred parts per billion (300 ppb) at the user's tap and the concentration of iron has been reduced to four thousand and six hundred parts per billion (4,600 ppb) at the user's tap or (2) other treatment levels for iron and manganese, which protect human health, are approved in writing by the United

State Environmental Protection Agency and the Maryland Department of the Environment.

GRANTEE, its successors and assigns shall protect the integrity of all existing and any future groundwater monitoring or extraction wells installed by GRANTOR, which are described in Exhibit F. The GRANTOR shall be responsible for proper abandonment and closure of the wells associated with the Old Sanitary Landfill and Fire Training Area, plus one (1) well associated with the Rubble Landfill, as detailed in Exhibit F, in accordance with State of Maryland Well Construction Regulations. The GRANTEE, its successors and assigns, shall be responsible for the proper abandonment and closure of the four (4) Rubble Landfill wells in accordance with State of Maryland Well Construction Regulations. The time at which the Rubble Landfill wells can be abandoned will be determined by the Maryland Department of the Environment in accordance with the requirements of the Groundwater Discharge Permit for the Rubble Landfill.

12. **Old Sanitary Landfill (Installation Restoration Program Site 1)**

The Old Sanitary Landfill (also known as the Installation Restoration Program Landfill - Site 1), which includes 30.658 acres, is described in Exhibit H, which is attached hereto and made a part hereof, and consists of two (2) pages.

GRANTOR, for a five (5) year period beginning January 1, 2000, and thereafter in perpetuity GRANTEE, its successors and assigns shall inspect, maintain and monitor the Old Sanitary Landfill in accordance with Maryland Laws and Regulations for landfills and in accordance with the "Operation and Maintenance Manual - Removal Action - NAVAL TRAINING CENTER - BAINBRIDGE, PORT DEPOSIT, MARYLAND, prepared by OHM Remediation Services Corp., for the Department of the Navy, April 14, 1997, receipt of which is acknowledged pursuant to Paragraph 1. of this INDENTURE, or the subsequent revised edition of the Operations and Maintenance Manual to be provided by GRANTOR to GRANTEE, in order to guarantee the integrity of the installed remedial action; shall not permit the landfill cap system to be compromised or penetrated by any means, including roots; shall, if the landfill cap is damaged or compromised, repair it immediately to the satisfaction of

the GRANTOR; and, shall patch, reseed, and restablish any areas of eroded final soil cover on the Former Sanitary Landfill promptly as they occur.

THE GRANTEE IS HEREBY NOTIFIED that no construction of any kind may commence or be accomplished in the FORMER SANITARY LANDFILL without written authorization for such activity having first been obtained from the GRANTOR and the Secretary of the Maryland Department of the Environment. The GRANTEE, by acceptance of this Quitclaim Deed, covenants and agrees, for itself, its successors and assigns, that in its use and occupancy of the Former Sanitary Landfill located on the Premises, it shall not cause air, land, or water pollution, public health hazards or nuisances.

GRANTOR shall provide GRANTEE the opportunity to assist in developing any future Operation and Maintenance Manuals and shall incorporate all suggestions of GRANTEE unless objectively unreasonable.

13. **Reservation of Access**

In accordance with the requirements and limitations contained in Title 42, United States Code, Section 9620(h)(3)(A)(iii), the GRANTOR expressly reserves all reasonable and appropriate rights of access to the Premises when remedial action or corrective action is found necessary pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §9601 et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq. after delivery of the Quitclaim Deed. The right of access described herein shall include the right to conduct tests, investigations, and surveys, including, where necessary, drilling, digging test pits, boring, and other similar activities. Such rights shall also include the right to conduct, operate, maintain or undertake any other response or remedial action as required or necessary including, but not limited to monitoring wells, pumping wells, and treatment facilities. GRANTEE agrees, for itself and its successors and assigns, to facilitate activities of the GRANTOR in furtherance of these covenants and will take no action to interfere with future necessary remedial and investigative actions of the GRANTOR. Any such entry, including such activities,

responses or remedial actions, shall be coordinated with the GRANTEE or its successors or assigns, and shall be performed in a manner which minimizes any damage to any structure on the Premises and any disruption of the use and enjoyment of the Premises.

The covenants, conditions and restrictions in Sections 10. (Old Hospital Area); 11. (Groundwater and Monitoring Wells); and 12. (Old Sanitary Landfill) are intended to benefit GRANTEE and shall be enforceable by the United States, through its representative the Environmental Protection Agency ("EPA") against subsequent owners and transferees of interests in the Old Hospital Area, the Areas of Supplemental Drinking Water Restrictions, and the Old Sanitary Landfill (as described in Exhibits G, F, and H, respectively). The United States, through its representative the EPA, reserves a permanent and continuing right of access at reasonable times, upon reasonable notice, with reasonable efforts to minimize any interference with the Grantee's and its successors', assignees', transferees' use and enjoyment of the property, solely and only to the extent necessary for the limited purposes of (1) verifying that no action is being taken in violation of Sections 10., 11. or 12. and (2) enforcing the covenants, restrictions and conditions in Sections 10., 11., and 12. The right of access for each of these three areas shall terminate independently, as and if, the requirements of Sections 10, 11, or 12, respectively, terminate. Nothing in this paragraph shall be construed as a limitation on any other rights of entry or access that the United States, through its representative the EPA, may have under applicable law.

14. **Non-Discrimination**

The GRANTEE covenants for itself, its heirs, successors, and assigns and every successor in interest to the property hereby conveyed, or any part thereof, that the said GRANTEE and such heirs, successors, and assigns shall not discriminate upon the basis of race, color, religion, or national origin in the use, occupancy, sale or lease of the property, or in their employment practices conducted thereon. This covenant shall not apply, however, to the lease or rental of a room or rooms within a family dwelling unit; nor shall it apply with respect to religion to

premises used primarily for religious purposes. The United States of America shall be deemed a beneficiary of this covenant without regard to whether it remains the owner of any land or interest therein in the locality of the property hereby conveyed and shall have the sole right to enforce this covenant in any court of competent jurisdiction.

15. **NOTICES**

Any payments or notices authorized or required to be given under this Quitclaim Deed shall be given in writing by the United States Postal Service or a comparable delivery service, with suitable record of receipt by the addressee, to the addressee listed below.

If to the GRANTOR:

Commanding Officer
Attention: Real Estate Director
Engineering Field Activity
Department of the Navy
1314 Harwood Street, S.E.
Washington, D.C. 20374-5018

If to the GRANTEE:

Bainbridge Development Corporation
One Seahawk Drive, Suite 400N
North East, Maryland 21901

AS IS, WHERE IS: Except as expressly provided for in this Quitclaim Deed or as a matter of law, the Premises described herein are conveyed "AS IS and WHERE IS" without representation, warranty, or guaranty as to quality, quantity, character, condition, size or kind, or that the same is in a condition, or fit, to be used for the purpose for which intended.

TO HAVE AND TO HOLD the same, together with all and singular the appurtenances thereunto belonging or in anywise appertaining, and all the estate, right, title, interest or claim whatsoever of the said GRANTOR, either in law or equity, subject to the above referred to restrictions.

IN WITNESS WHEREOF, THE UNITED STATES OF AMERICA has caused these presents to be executed in its name and on its behalf the day and year first above written.

UNITED STATES OF AMERICA
Acting by and through the
Naval Facilities Engineering
Command, Engineering Field
Activity Chesapeake

By _____ (Seal)
Ilse T. Merryman
Real Estate Contracting Officer

WITNESS:

_____

STATE OF MARYLAND
CITY OF BALTIMORE

I HEREBY CERTIFY that on this 11th day of FEBRUARY, 2000, before the subscriber, a NOTARY PUBLIC, in and for the STATE and COUNTY aforesaid, personally appeared ILSE T. MERRYMAN, known to me to be the person who executed the foregoing instrument and acknowledged that she executed the same in the capacity therein stated and for the purposes therein contained.

WITNESS my hand and seal this day and year last above written.

[Notarial Seal]

JILL P. WIGGAN
NOTARY
PUBLIC
HARFORD COUNTY, MD.

_____
Notary Public

My commission Expires: 11/13/01

ACCEPTED BY BAINBRIDGE DEVELOPMENT CORPORATION

By _____ (Seal)
Harland Graef
Chairman

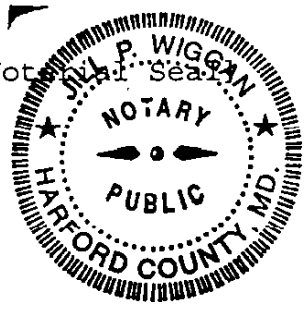
WITNESS: _____

STATE OF MARYLAND
CITY OF BALTIMORE

I HEREBY CERTIFY that on this 11th day of February, 2000, before the subscriber, a Notary Public in and for the STATE and COUNTY aforesaid, personally appeared HARLAND GRAEF, known to me to be the person who executed the foregoing instrument and acknowledged that he executed the same in the capacity therein stated and for the purposes therein contained.

_____
Notary Public

[Notarial Seal]



My Commission Expires: 11/13/01

This is to certify that this instrument was prepared by or under the supervision of a Maryland attorney or by a Party to this Instrument.

_____
PATRICIA J. CHALFANT
Attorney-at-Law
Assistant Counsel
Engineering Field Activity
Chesapeake

EXHIBITS LIST

A. DESCRIPTION OF PROPERTY, FORMER BAINBRIDGE NAVAL TRAINING CENTER, Taylor Wiseman & Taylor, 37 pages

B. NAVAL TRAINING CENTER BAINBRIDGE, MARYLAND, GENERAL DEVELOPMENT MAP (NAVFAC DRAWING No. 882049), dated 4-1-65, 4 pages

C. INVENTORY OF REMAINING STRUCTURES AT NTC BAINBRIDGE, 2 pages

D. ARCHAEOLOGICAL AND HISTORIC PRESERVATION EASEMENT - TOME SCHOOL HISTORIC DISTRICT AND SNOW HILL FREE BLACK ARCHAEOLOGICAL SITE, 9 pages

E. DESCRIPTION OF PROPERTY, FORMER BAINBRIDGE NAVAL TRAINING CENTER, RUBBLE LANDFILL AREA, Taylor Wiseman & Taylor, 2 pages

F. FORMER NAVAL TRAINING CENTER BAINBRIDGE - MONITORING WELLS AT RUBBLE LANDFILL, OLD SANITARY LANDFILL, AND FIRE TRAINING AREA, 5 pages

G. DESCRIPTION OF 6.73 ACRES OF LAND MORE OR LESS, SITE 12-19-S [OLD HOSPITAL AREA], PART OF THE FORMER BAINBRIDGE NAVAL TRAINING CENTER, SEVENTH DISTRICT, CECIL COUNTY, MARYLAND, McCrone, Inc., 1 page

H. DESCRIPTION OF PROPERTY, FORMER BAINBRIDGE NAVAL TRAINING CENTER, OLD LANDFILL AREA [IR SITE 1], 2 pages

OHM Remediation Services Corp.
A Subsidiary of the IT Group

OPERATION AND MAINTENANCE MANUAL
OLD BASE LANDFILL
FORMER NAVAL TRAINING CENTER BAINBRIDGE
PORT DEPOSIT, MARYLAND

Submitted to:

DEPARTMENT OF THE NAVY
Atlantic Division
Contract No. N62470-93-D-3032/168
EFA Chesapeake - NAVFACENGCOM
1314 Harwood Street – Washington Navy Yard
Washington, DC 20374

Prepared By:
OHM Remediation Services Corporation
The IT Group
2790 Mosside Boulevard
Monroeville, Pennsylvania 15146-2792

Reviewed by:

Lawrence J. Stearns, P.E.
Project Manager

Roland Moreau, P.E.
Program Manager

March 2000
Delivery Order #168
OHM Project #920084

TABLE OF CONTENTS

1.0 INTRODUCTION

This document has been prepared to guide the operation and maintenance (O&M) for the Old Landfill, Former Naval Training Center - Bainbridge (NTCB), Port Deposit, Maryland. The designated agent for the Navy or the owner shall perform this work.

The purpose and scope of this document is to clearly establish the overall goals and specific criteria associated with the long-term operation and maintenance for the Old Base Landfill. Ultimately, implementation of this workplan is critical to the long-term survival of the geosynthetic membrane, which is integral to the cap design and risk reduction. The integrity of the geomembrane would be at risk if the overall thickness of the earthen cap cover layers became significantly reduced by soil erosion, gully formation, burrowing animal, or any other mechanism. Essentially this cap design relies upon the successful propagation of a permanent stand of robust vegetative grass cover to permanently stabilize the earthen materials of the cap. Therefore, both civil engineering and agronomic concerns need to be addressed within the context of the prescribed, detailed site inspections outlined herein. Compliance with the intent and practice of this O&M plan will promote longevity of the geomembrane, thus extending the efficacy of the Remedial Action.

The guidance that is provided in this document is intended to address certain foreseeable, near future situations that are commonly encountered in landfill cap maintenance. Those responsible for the inspection, maintenance, and repair of the Old Landfill Cap site must eventually develop their own sense of priority and experience to complement this O&M manual.

The guide has been organized as follows:

- Section 1 gives an introduction and a brief overview of the work previously performed leading up to the O & M period.
- Section 2 describes inspections,
- Section 3 addresses maintenance, and
- Section 4 addresses repairs.

1.1 PROJECT BACKGROUND

Design and construction of NTCB began in 1942 initially building from the property of the former Tome Institute School. NTCB served as a boot camp for the Navy recruits during World War II and the Korean War and was permanently closed in 1976. The Old Base Landfill served NTCB during operational years. Initial capping activity at the Old Base Landfill began in April 1994 with cap repair and related activities completed in December 1999.

1.2 CAP DESIGN

The Old Base Landfill cap was originally constructed from April 1994 to May 1995. The construction was based on a design prepared by others. It consisted of the following layers placed above the regraded and compacted waste materials (listed from the bottom upwards):

- Final Cover Layer: 24-inch compacted fine sand
- Gas Vent Geocomposite Layer: non-woven geotextile bonded to high-density polyethylene (HDPE) geonet.
- Geomembrane Layer: 40-mil HDPE
- Drainage Geocomposite Layer: non-woven geotextile bonded to HDPE geonet

- Barrier Soil Layer: 18-inch silty sand
- Topsoil Layer: six-inch sandy-silty loam

Following the completion of original construction in May 1995, the barrier soil layer above the geomembrane experienced widespread erosion. Several temporary repairs were implemented while an engineering evaluation was conducted. In January 1997, the Navy arranged for the U.S. Army Corps of Engineers (USACE) to redesign the landfill cap. The cap reconstruction was initiated in March 1998 and completed in December 1999.

It was determined that the area above the upper berm did not require repairs and its cross section remains as originally constructed. During the redesign repair work, the north, west, and southwest faces of the cap were fully rebuilt. The cap material was stripped down to the drainage geocomposite layer and replaced with the following layers (listed from the geocomposite upwards):

- Gravel Drainage Layer: 12-inch AASHTO #357
- Geotextile fabric
- Select Fill: 18-inch clayey material
- Topsoil Layer: six inch sandy-silty loam

While Culvert No. 1 was being installed, debris/sludge materials were encountered outside the limits of the original cap. The location of the debris/sludge materials were delineated, a minicap design prepared by the USACE, and the debris/sludge consolidated under a newly capped area by OHM. The minicap consisted of the following layers placed above the regraded and compacted debris/sludge materials (listed from the bottom upwards):

- Final Cover Layer: 24-inch compacted fine sand
- Gas Vent Geocomposite Layer: bonded non-woven geotextile to high-density polyethylene (HDPE) geonet.
- Geomembrane Layer: 40-mil HDPE welded to the south side of the original cap geomembrane.
- Cushion Layer: 16-ounce non-woven geotextile
- Gravel Drainage Layer: 12-inch AASHTO #357
- Separation Layer: 16-ounce non-woven geotextile
- Select Fill: 18-inch clayey material
- Topsoil Layer: six inch sandy-silty loam

The cap redesign concept incorporated two large surface water drainage features [berms and swales] to safely manage high magnitude storm water events. Details of these features can be found in the cap repair design specifications, the design drawings, and the as-built drawings.

2.0 INSPECTIONS

Periodic inspections are necessary to assure that the landfill cap system and related facilities continue to function as designed. The overall goal of the inspection program is to maintain the structural and vegetative stability of the soils in the cap as this will promote long service life of the geomembrane. Inspections shall be performed semiannually in the spring (March) and fall (November). The scheduled inspections shall be performed after the grass has been mowed so that any deficiencies are more easily seen. Unscheduled inspections shall be performed after major weather events such as intense precipitation, heavy snow melt combined with precipitation, hurricanes, and drought. These inspections are important, because it is less expensive to repair multiple small problems (e.g. small erosion rills) than to repair a few large problems (e.g. large erosion rills, slope failures, culvert failures, etc.). To facilitate inspections, the prior mowing of vegetation is recommended [refer to Section 3.4].

Inspections shall be conducted by personnel with experience in modern landfill inspections and maintenance programs. Any major problems identified during the inspections shall be immediately referred to the owner and the Navy so that arrangements can be made to have a professional civil engineer registered in the State of Maryland examine the situation.

The attached O&M Inspection Checklist details the areas to be inspected and shall be used with the inspection summary described in this section. The inspection checklist shall be completed for each inspection. At the conclusion of the inspection, a report shall be prepared and submitted to the owner, with a copy to the Navy, for review. This inspection report shall, at a minimum, have the following items:

- O&M Inspection Checklist,
- Narrative on items of concern, and
- Schedule for corrective actions, if required.

Maintenance and repair activities are addressed in Sections 3 and 4 respectively. All correspondence to the Navy shall be addressed as follows:

United States Department of the Navy
Engineering Field Activity – Chesapeake
Attn: Code 18/24
1314 Harwood Street
Washington Navy Yard
Washington, D.C. 20374

2.1 GATES AND FENCE

The fence and gates around the Old Landfill shall be inspected to ensure they continue to provide controlled access to the site. This includes the fence and gate along MD Rt.276, the vehicle gate and jersey barriers off of Gilmore Circle, and the vehicle gate at Sever Lane. Refer to the as-built drawings for the location of these features.

The gates shall be inspected for the condition of hinges, fence fabric, and locks. The gates shall be checked to see that they open freely, swing easily and extensively, and remain locked when not in use. Signs shall be replaced or repaired as needed. The fence shall be inspected for the general condition of the fence fabric, posts, tie wires, and barbed wire. Specifically note any locations of possible unauthorized entry.

2.2 DRAINAGE CONTROLS

This section addresses the inspection of the drainage controls, which include inlets, culverts, ditches, and swales. Refer to the as-built drawings for the locations and details of these features.

2.2.1 Inlets

Numerous inlet structures have been installed at the site to facilitate surface and subsurface drainage from the cap. These include the culvert inlets, diversion inlets, and lateral drain inlets. All inlets shall be inspected for the following:

- Integrity of the concrete and other construction materials,
- Unobstructed surface water inlets, and
- Sediment level and debris.

Inlets include the following:

- Diversion A south inlet box,
- Diversion A manhole,
- Diversion B north inlet box,
- Diversion D inlet box,
- Inlet box #1 (for culvert #1),
- Inlet boxes #2-1 and #2-2 (for culvert #2),
- Inlet box #2A-1 and Manhole #2A-2 (for culvert #2A),
- Inlet #3 pipe flare end (for culvert #3),
- Inlet box #4 (for Culvert #4), and
- Laterals #1 through #8 (Inlets for laterals #1 through #8, located on the perimeter road swale).

2.2.2 Culverts and Pipes

Culvert and pipes shall be inspected for obstructions, the need for sediment removal, proper flow entrance, pipe collapse, structural problems, erosion problems, and subsidence settlement. Culvert and pipes include the following:

- Diversion A culvert,
- Diversion B culvert,
- Diversion D culvert,
- Culvert #1,
- Culvert #2,
- Culvert #2A,
- Culvert #3,
- Culvert #4, and
- Laterals #1 through #8.

2.2.3 Pipe Outlets, Ditches, and Swales

The riprap pipe aprons, ditches, and swales shall be inspected for settlement and erosion. The vegetated swales adjacent to the perimeter road and the spoils pile shall be inspected for settlement, erosion, and vegetative cover. Scour holes shall be inspected for sediment collection and riprap structural integrity. The Culvert #2 discharge area shall be inspected for surface erosion, sediment level, stability of berm and

all slopes, vegetative cover condition, and weir and spillway condition. Rodent screens covering the discharge ends of the eight lateral drains shall be visually inspected to confirm that they are preventing rodent access to the laterals. Pipe outlets, ditches, and swales that shall be inspected include:

- Diversion A outlet structure,
- Diversion B outlet apron,
- Swale F and its outlet apron (by the spoils area),
- MD Rt. 276 culvert outlet and ditch (by Diversion D inlet box),
- Diversion D outlet apron,
- Western riprap channel and check dams,
- Southern riprap channel and swale,
- Ditch #1,
- Culvert #2 outlet apron (at culvert #2 outlet structure),
- Culvert #2A scour hole,
- Ditch #3,
- Culvert #4 scour hole,
- Perimeter road swale,
- Laterals #1 through #6 outlet apron (in Western channel), and
- Lateral #7 and #8 scour hole.

2.2.4 Cleanouts

Cleanouts were installed in order to have access to subsurface drainage pipes, for the purposes of clearing possible blockages. A cleanout is composed of a section of solid pipe that is capped at the surface and is connected to the subsurface drainage pipe, at a 45-degree angle, with a wye fitting. The cleanouts shall be inspected as follows:

- Each riser cap shall be checked to ensure that the cap is in place and functioning properly,
- The cap shall be removed and a visual inspection made of the amount of sediment contained along the flow line of the pipe. If the bottom of the pipe cannot be visually inspected, a water level indicator shall be inserted to the bottom of the cleanout, retrieved, and inspected for the presence of liquid which might indicate a blockage.
- The concrete pad shall be inspected for cracking, undermining, and scouring.

The following cleanouts shall be inspected:

- Southwest anchor trench cleanouts (6),
- Southwest drain cleanouts (3),
- Lower pipe cleanouts (9 along the perimeter road),
- Southeast old anchor trench cleanouts (4), and
- Upper pipe cleanouts (4 along the upper berm).

2.3 LANDFILL CAP

The cap and side slopes of the landfill perimeter road shall be carefully inspected for evidence of the following:

- Ponded water,
- Erosion gullies,

- Woody plants and tree saplings,
- Inadequate vegetative cover - An area larger that 100 square feet [less on the steeper slopes] with no vegetative cover shall be considered a problem,
- Slope stability failures or symptoms of impending failure,
- Washouts of the soil and stone at lateral drainpipes,
- Settlement damage,
- Animal burrow holes,
- Overall vegetative success and disease considerations,
- Agronomic soil fertility and plant growth considerations,
- Any human activity that may have penetrated or compromised the cap geomembrane or the engineered cap soil cover.

Slope stability concerns shall require consulting the expertise of a qualified professional geotechnical or civil engineer. Agronomic concerns shall require consulting the expertise of a professional agronomist or soil scientist.

Particular attention shall be given to soil conditions and possible vegetative disease during inspections. During years with extended cool, wet spring and/or summer seasons, the inspection shall be particularly watchful for "damping-off" and fungal disease in trifoliate species. If there is any question or concern regarding the overall success of the vegetation, or the proper identification of possible plant disease, a professional agronomist shall be consulted in a timely manner and shall include at a minimum contacting the staff agronomist as follows:

University of Maryland – Cooperative Extension Service [Cecil County]
129 East Main Street – Room 7
Elkton, MD 21921
(410) 996-5280

The maintenance of soil fertility is critical to the success of the vegetation on the cap. During the spring inspection, soil samples shall be collected and tested for agronomic properties. A minimum of one soil sample shall be collected from the following cap areas:

- Above the upper berm
- Below the upper berm on the north slope
- Below the upper berm on the south slope
- From the Mini-Cap area.

Additional soil samples shall be collected and biased towards areas with visible severe vegetation distress or where there is no vegetation for areas of 100 square feet or more based on the judgement of the inspectors. Soil samples shall be collected by compositing 15 to 20 small samples from the approximately 5 acre sampling area. Soil samples shall be sent to the following for "Regular Soil Test" [pH, texture, Mg, P2O5, K2O, Ca, and percent organic matter]. Additional soil tests may be performed on the advice of a professional agronomist:

Soil Testing Laboratory
University of Maryland
College Park, MD 20742
(301) 405-1349

2.4 BENCHMARKS

The two permanent survey control benchmarks, monuments #902 and #903, as shown on the design and as-built drawings, shall be inspected for damage. These benchmarks may be used in the future and shall be maintained.

2.5 GROUNDWATER MONITORING WELLS

The groundwater wells adjacent to the landfill shall be inspected for the integrity of the following:

- Locks,
- Protective casing,
- Bollards,
- Concrete pad,
- Retaining wall, and
- Signs.

The following wells shall be inspected:

- I-GW-1,
- I-GW-3,
- I-GW-4,
- I-GW-8, and
- I-GW-9.

2.6 GAS VENTS

The condition of the gas vents' above ground risers shall be inspected for the following:

- The rubber coupling should secure the vent pipe in place,
- The PVC pipe should not be cracked,
- The geomembrane boot should not be exposed,
- The pipe should be upright, and
- The gas vent identification should be legible.

The following 33 gas vents shall be inspected:

- G-3
- G-6
- G-7
- G-8
- G-12
- G-15
- G-17
- G-18
- G-19
- G-20
- G-21
- G-23
- G-24
- G-25
- G-26
- G-27
- G-28
- G-29
- G-30
- G-31
- G-32
- G-33
- G-34
- G-35
- G-36
- G-37
- G-38
- G-39
- G-40
- G-41
- G-42
- G-44
- G-45

2.7 PERIMETER ROAD

The perimeter road shall be inspected to ensure that the road remains serviceable completely around the landfill. The perimeter road shall be inspected for the following:

- Washouts,
- Slides,
- Road blockages,
- Excessive rutting,
- Soft pumping areas,
- Poor drainage areas, and
- Frost-heave damage.

3.0 MAINTENANCE

Maintenance activities shall include routine maintenance for the landfill cap area including all drainage features and related facilities. For the purpose of this guide, maintenance is defined as the work performed on an item, regardless of its condition, in order for it to continue to perform its intended function. Repair activities will be discussed in Section 4.

The following maintenance is recommended to be performed shortly after the semiannual inspections. Maintenance activities shall be performed after the inspection has been conducted and the findings documented. This will allow for the identification, repair, and/or redesign of features with recurring problems.

3.1 FENCE AND GATES

The gate along MD Rt.276, the vehicle gate and jersey barriers off of Gilmore Circle, and the vehicle gate at Sever Lane shall be maintained to ensure that they remain functional. The vegetation that inhibits the gates from opening properly shall be trimmed and the gate hinges and locks shall be lubricated.

3.2 DRAINAGE CONTROLS

Maintenance of the inlets, culverts, and cleanouts shall be accomplished by removing any obstructions and flushing out the systems with water. Flushing shall be confirmed by witnessing the exit of the water from the particular system.

The hinges on the lateral grates and the screws on the cleanout caps shall be lubricated to facilitate future inspections and maintenance activities.

The maintenance of ditches shall involve clearing any obstructions that inhibit flow or create washouts and erosion gullies in the channels. Vegetation may need to be cut or removed.

Periodic removal of collected sediment from the Culvert #2 discharge area may be required until vegetation is established on the landfill cap and adjacent disturbed areas. Sediment shall be removed from this area when the sediment reaches levels that restrict flow.

3.3 LANDFILL CAP

Animal burrows may cause serious damage to the landfill cap. In an effort to minimize the damage to the cap due to animals burrowing, an animal population maintenance plan shall be instituted. This may include the deployment of poison bait and/or traps in accordance with state and local rules and regulations. If poison bait and/or traps are deployed as part of a maintenance plan, then the removal and disposal of the dead animals shall also be performed in accordance with the appropriate rules and regulations.

Repair of the animal burrows is included in Section 4.

3.4 VEGETATIVE COVER

The cap vegetation, which consists of a grass cover, shall be mowed semiannually in the spring (after mid March) and fall (before mid November). It shall be mowed prior to scheduled inspections [refer to Section 2.0]. All growth over 12 inches in height shall be cut and/or removed to a 4-inch height. The

landfill cap and other vegetated project areas shall be maintained to minimize soil washout areas and erosion gullies. Care shall be taken not to damage the gas vents and cleanouts during this task.

The vegetated areas include:

- The cap area above the upper berm,
- The upper berm,
- The cap area between the upper and lower berms,
- The lower berm,
- The cap area below the lower berm,
- The perimeter road swale,
- The perimeter road outer slope,
- The ditch #3 berm area,
- The slope between western channel and MD Rt. 276,
- The culvert #2 outlet structure area,
- The grassed area southwest of the perimeter road between Culvert #2 outlet and Scour hole #2A, and
- The spoils pile and surrounding area, including swale F.

3.5 BENCHMARKS

Vegetation in the surrounding area of the two permanent survey control benchmarks shall be trimmed or removed in order to facilitate their continued inspection and use.

3.6 GROUNDWATER MONITORING WELLS

The locks and hinges on the protective casings shall be lubricated to facilitate their use. Prior to lubricating the hinges and locks, the interior well cap shall be on the well casing and the top of the well covered. This should prevent the lubricants from interfering with groundwater analytics. The lubricants used on any groundwater monitoring well shall be documented.

4.0 CORRECTIVE MEASURES

The features that require repairs shall be identified and documented through the inspection activities described in Section 2. For the purpose of this guide, a repair is defined as the work performed on an item, which is prompted by the item's damaged condition, in order for it to continue to perform its intended function. Upon approval by the owner, repairs shall be performed to maintain the functional integrity of the facilities and restore the original design.

At the completion of any corrective action, the owner shall be notified in writing of the work performed. This documentation will allow for the identification of recurring problems that may need different repair approaches. For all repairs, the cause of the damage shall be identified in order to prevent reoccurrence.

The materials and equipment that will be needed for corrective actions will depend on the nature and extent of the required repair. The repairs shall be consistent with construction industry standard practices. The following references address the materials and equipment required for corrective measures:

- As-Built Drawings and
- Specifications for materials and procedures previously used at the site.

This section should serve as a guide for most of the repairs that may be needed at the landfill. For serious damage, a qualified professional civil engineer shall be consulted to inspect the damage and recommend corrective measures.

4.1 GATES AND FENCE

Damage to the gates and fence that shall require repairs include:

- Damaged or missing locks – Replace the set at the three gates and supply the owner with new keys.
- Damaged hinges – Repair or replace as needed.
- Fence fabric – Place similar fabric on damaged area and fasten with heavy gage wire. Tension to adjacent fence with the use of come-along.
- Jersey barriers – If jersey barriers have been moved, replace to prevent traffic from bypassing the vehicle gates.
- Settlement at posts – Replace fill and compact around post. Plumb posts as needed.
- Replace fence where repairs are not possible or economical.

4.2 DRAINAGE CONTROLS

Drainage features shall be repaired as soon as possible to prevent more serious damage.

4.2.1 Inlets

Inlet damage that shall require repairs may include the following:

- Concrete damage – Seal cracks to prevent future damage.
- Grating and manhole covers – Damaged or missing inlet gratings and manhole covers shall be repaired with welding equipment or replaced as needed.
- Concrete pad undermining – Place fill, compact, seed, and cover with erosion matting.

4.2.2 Culverts and Pipes

If a pipe or culvert has an obstruction that can not be reached or dislodged, or if it is damaged, a qualified professional civil engineer shall be notified to determine the appropriate course of action. Clear signs of a damaged pipe may include the erosion and subsidence of the pipe cover material and excess sedimentation at the pipe outlet.

Damaged rodent screens shall be repaired, to prevent access to the pipe, or replaced as needed.

4.2.3 Pipe Outlets, Ditches, and Swales

Possible damage to the pipe aprons, ditches, and swales that shall be repaired are as follows:

- Settlement of riprap – Additional material shall be placed. If the problem persists, a qualified professional civil engineer shall be contacted.
- Erosion – Erosion rills shall be filled with fill and/or topsoil, compacted, seeded, and erosion blankets placed.
- Sediment removal – Sediment shall be removed from the scour holes and the Culvert #2 discharge area. The sediment removed shall be placed at an owner-designated area.

4.2.4 Cleanouts

Cleanout damage that shall require repairs include:

- Damaged or missing caps – Replace the caps. If possible determine the cause of the damage and make appropriate improvements to prevent reoccurrence.
- Pipe blockage – If a pipe can not be successfully flushed, due to an obstruction or pipe damage, a qualified professional civil engineer shall determine the appropriate course of action.
- Damaged concrete pad – Seal cracks to prevent future damage.
- Concrete pad undermining – Place fill, compact, seed, and cover with erosion matting.

4.3 LANDFILL CAP

Damage to the landfill cap that shall require repairs include:

- Erosion rills, slides, or settlement – Fill and/or topsoil shall be placed, compacted, seeded, and covered with erosion matting. The owner and a qualified professional civil engineer shall be contacted immediately if the erosion rills or slides expose the drainage stone or geocomposite layers, or if they are severe or extensive in extent.

- Geocomposite or geomembrane damage - The owner and a qualified professional civil engineer shall be contacted to determine the appropriate course of action.

- Animal burrows – Fill and/or topsoil shall be placed in the hole, compacted, seeded, and covered with erosion matting if needed. Refer to Section 3 for a suggested animal population maintenance program.

4.4 VEGETATIVE COVER

An area larger that 100 square feet with no vegetative cover shall be considered a problem. The following corrective action shall be performed:

- Rake area without vegetation,
- Apply additional topsoil if the existing topsoil is less than six inches,
- Apply seed and fertilizer and rake into topsoil,
- Cover the area with straw or erosion matting, and
- Water the area until moist.

The owner and a qualified professional civil engineer shall be contacted if there are any signs of infestation or phytotoxicological problems on the vegetation.

4.5 BENCHMARKS

If any of the permanent survey control benchmarks are damaged, they shall be replaced. If the benchmarks were damaged due to their location, the owner and qualified professional civil engineer shall be contacted to determine a more suitable location. The new benchmarks may need to be installed by a licensed professional land surveyor under state law.

4.6 GROUNDWATER MONITORING WELLS

Damage to the groundwater monitoring wells that shall require repairs include:

- Damaged or missing locks – Replace and supply the owner with new keys.
- Damaged hinges on the protective casing – Repair or replace as needed.
- Missing or damaged sign – Repair or replace as needed.
- Damaged bollards – Reset plumb as needed and paint. If repair is not possible, contact the owner to determine replacement or removal of the bollard.
- Damaged concrete pads – Repair cracked concrete with mortar or replace if damage is extensive.
- Damaged or rusted casing – Remove rust with steel brush and paint. If damage is severe or the groundwater can not be monitored, the entire well or well casing may need to be replaced. The owner and qualified professional civil engineer shall be contacted.

4.7 GAS VENTS

Gas vent damage that shall require repairs include:

- Vent pipe is off – The PVC vent shall be reattached with the existing rubber coupling. Determine cause and make necessary improvements to prevent reoccurrence.
- Rubber coupling damage – The coupling shall be replaced with new coupling.
- Cracked PVC – The cracks shall be sealed with epoxy, silicon caulk, or fiberglass resin. If damage is more substantial, the above ground PVC pipe vent shall be replaced.
- Damage below grade – Contact the owner and a qualified professional civil engineer for guidance.

4.8 PERIMETER ROAD

Perimeter road damage that shall require repairs include:

- Erosion rills, slides, or settlement – The damaged area shall be filled with compacted select fill or crusher run, depending on the depth of the damage. The top six inches of the road shall be only crusher run. The area shall be compacted in six-inch lifts. A qualified professional civil engineer shall be contacted immediately if erosion rills or slides make the road unstable, unsafe, or impassable.

All repairs shall return the landfill features to their as-built condition, except as may be necessary to correct chronic problems.

OLD BASE LANDFILL

Inspection No.

Former NTC Bainbridge, Port Deposit, Maryland 21904

INSPECTION DATE(S): _____ **INSPECTOR (S):** _____

WEATHER CONDITIONS:

Temperature: _____ **Precipitation:** _____

Humidity: _____ **Wind & Cloud Cover:** _____

Recent Weather Trends: _____

Unusual or Severe Weather: _____

REASON FOR THIS INSPECTION:

☐ **Scheduled Inspection** ☐ **After Major Weather Event Inspection** ☐ **Re-Inspection of Deficient Items**

☐ **Other** _____

NOTE: Use this checklist in conjunction with the Operation and Maintenance Manual [particularly Section 2 - Inspections], plus the As-Built Drawings, the U.S. ACE Design Drawings and Specifications, and any applicable Variances, Technical Directives, Work Directives, or RFI's.

	AREA OF INSPECTION	INSPECTED	DOES NOT APPLY	ACCEPTABLE	NOT ACCEPTABLE	NOTES AND COMMENTS	PROPOSED CORRECTIVE ACTION
GATES AND FENCES [O&M Manual Section 2.1]							
	KEY INSPECTION ITEMS	Check general condition of hinges, fence fabric, posts, tie wires, cross-bars, barbed wire, and locks. Concrete highway barriers should be in position and functional. Locks should open and re-lock easily and soundly. Gates should swing freely, easily, and extensively. Gates must deny access when locked. Check that vegetation has not overgrown fence. Check that post foundations are secure, and that signage is in-place and legible. Note locations of possible unauthorized entry.					
1	*MD Rt. 276 Fence*	☐	☐	☐	☐		
2	*MD Rt. 276 Gate*	☐	☐	☐	☐		
3	*Perimeter Road Gate*	☐	☐	☐	☐		
4	*Sever Lane Gate*	☐	☐	☐	☐		

	AREA OF INSPECTION	INSPECTED	DOES NOT APPLY	ACCEPTABLE	NOT ACCEPTABLE	NOTES AND COMMENTS	PROPOSED CORRECTIVE ACTION
DRAINAGE CONTROLS [O&M Manual Section 2.2]							
	INLETS [Section 2.2.1]						
	KEY INSPECTION ITEMS Check integrity of concrete and other construction materials. Check for flow obstructions, sediment deposits, and/or debris.						
5	*Diversion A south inlet box*	☐	☐	☐	☐		
6	*Diversion A manhole*	☐	☐	☐	☐		
7	*Diversion B north inlet box*	☐	☐	☐	☐		
8	*Diversion D inlet box*	☐	☐	☐	☐		
9	*Inlet box #1 [for Culvert No.1]*	☐	☐	☐	☐		
10	*Inlet box #2-1 [for Culvert No.2]*	☐	☐	☐	☐		
11	*Inlet box #2 - 2 [for Culvert No. 2]*	☐	☐	☐	☐		
12	*Inlet box#2A-1 [for Culvert No. 2A]*	☐	☐	☐	☐		
13	*Manhole #2A-2 [for Culvert No. 2A]*	☐	☐	☐	☐		
14	*Inlet #3 [for Culvert No.3]*	☐	☐	☐	☐		
15	*Inlet box #4 [for Culvert No. 4]*	☐	☐	☐	☐		
16	*Lateral #1 inlet*	☐	☐	☐	☐		
17	*Lateral #2 inlet*	☐	☐	☐	☐		
18	*Lateral #3 inlet*	☐	☐	☐	☐		
19	*Lateral #4 inlet*	☐	☐	☐	☐		
20	*Lateral #5 inlet*	☐	☐	☐	☐		
21	*Lateral #6 inlet*	☐	☐	☐	☐		
22	*Lateral #7 inlet*	☐	☐	☐	☐		
23	*Lateral #8 inlet*	☐	☐	☐	☐		
	CULVERTS AND PIPES [Section 2.2.2]						
	KEY INSPECTION ITEMS Check for obstructions, sediment deposits to be removed, and proper flow entrance. Check for structural problems including signs of pipe collapse or subsidence settlement. Check for erosion problems.						
24	*Diversion A culvert*	☐	☐	☐	☐		
25	*Diversion B culvert*	☐	☐	☐	☐		
26	*Diversion C culvert*	☐	☐	☐	☐		
27	*Culvert #1*	☐	☐	☐	☐		
28	*Culvert #2*	☐	☐	☐	☐		
29	*Culvert #2A*	☐	☐	☐	☐		
30	*Culvert #3*	☐	☐	☐	☐		
31	*Culvert #4*	☐	☐	☐	☐		
32	*Lateral #1 pipe*	☐	☐	☐	☐		
33	*Lateral #2 pipe*	☐	☐	☐	☐		
34	*Lateral #3 pipe*	☐	☐	☐	☐		
35	*Lateral #4 pipe*	☐	☐	☐	☐		
36	*Lateral #5 pipe*	☐	☐	☐	☐		
37	*Lateral #6 pipe*	☐	☐	☐	☐		
38	*Lateral #7 pipe*	☐	☐	☐	☐		
39	*Lateral #8 pipe*	☐	☐	☐	☐		

	AREA OF INSPECTION	INSPECTED	DOES NOT APPLY	ACCEPTABLE	NOT ACCEPTABLE	NOTES AND COMMENTS	PROPOSED CORRECTIVE ACTION
	PIPE OUTLETS, DITCHES, AND SWALES [Section 2.2.3]						
	KEY INSPECTION ITEMS	Check riprap aprons, ditches, and swales for settlement, erosion, and sediment or debris deposition. Check vegetated swales adjacent to perimeter road and spoils pile for vegatative coverage, obstructing vegetation, and ponded water. Inspect scour holes for sediment/debris deposition and riprap structural integrity. At the Culvert #2 outlet apron, inspect for surface erosion, sediment deposits, stability of berm and slopes, vegetative cover, and weir and spillway condition. Check rodent screens on Laterals #1 to #8.					
40	*Diversion A outlet structure*	☐	☐	☐	☐		
41	*Diversion B outlet apron*	☐	☐	☐	☐		
42	*Swale F*	☐	☐	☐	☐		
43	*Swale F outlet apron*	☐	☐	☐	☐		
44	*MD Rt. 276 culvert outlet and ditch*	☐	☐	☐	☐		
45	*Diversion D outlet apron*	☐	☐	☐	☐		
46	*Western riprap channel and swale*	☐	☐	☐	☐		
47	*Southern riprap channel and swale*	☐	☐	☐	☐		
48	*Ditch #1*	☐	☐	☐	☐		
49	*Culvert #2 outlet apron*	☐	☐	☐	☐		
50	*Culvert #2A scour hole*	☐	☐	☐	☐		
51	*Ditch #3*	☐	☐	☐	☐		
52	*Culvert #4 scour hole*	☐	☐	☐	☐		
53	*Perimeter road swale*	☐	☐	☐	☐		
54	*Lateral #1 outlet apron*	☐	☐	☐	☐		
55	*Lateral #2 outlet apron*	☐	☐	☐	☐		
56	*Lateral #3 outlet apron*	☐	☐	☐	☐		
57	*Lateral #4 outlet apron*	☐	☐	☐	☐		
58	*Lateral #5 outlet apron*	☐	☐	☐	☐		
59	*Lateral #6 outlet apron*	☐	☐	☐	☐		
60	*Lateral #7 scour hole*	☐	☐	☐	☐		
61	*Lateral #8 scour hole*	☐	☐	☐	☐		
	CLEANOUTS [Section 2.2.4]						
	KEY INSPECTION ITEMS	Check that each riser cap is present and securely attached. Remove cap and inspect for presence of sediment or stagnant water [possible blockage]. Use a water level indicator if needed. Inspect concrete pad for cracking, degradation, undermining, and scouring.					
62	*Southwest anchor trench cleanouts (6)*	☐	☐	☐	☐		
63	*Southwest drain cleanouts (3)*	☐	☐	☐	☐		
64	*Lower pipe cleanouts (9)*	☐	☐	☐	☐		
65	*Southeast old anchor trench cleanouts (4)*	☐	☐	☐	☐		
66	*Upper pipe cleanouts (4)*	☐	☐	☐	☐		

	AREA OF INSPECTION	INSPECTED	DOES NOT APPLY	ACCEPTABLE	NOT ACCEPTABLE	NOTES AND COMMENTS	PROPOSED CORRECTIVE ACTION
LANDFILL CAP [O&M Manual Section 2.3]							
	KEY INSPECTION ITEMS	Inspect the cap and perimeter road sideslopes [PR 1+50 to PR 20+50] for ponded water, erosion rills or gullies, woody plants or tree saplings, settlement holes or damage, animal burrow holes, and any intrusive human activity. Check for inadequate vegetative coverage [consider it a problem if larger than 100 sft; less on steep slopes]. Check the overall vegetative success and look for indications of disease or weather distress. Check for washouts of soil and stone at the discharge ends of laterals. Check for signs of slope instability, tension cracks, slides or sloughs. Collect soil samples for agronomic testing.					
67	*Top area [above the Upper Berm]*	☐	☐	☐	☐		
68	*Upper Berm [UB 0+00 to UB 18+50]*	☐	☐	☐	☐		
69	*North slope [PR 2+50 to PR 16+50]*	☐	☐	☐	☐		
70	*Lower Berm [LB 0+00 to 13+00]*	☐	☐	☐	☐		
71	*Southwest slope [PR 16+50 to 28+73 Sever Lane]*	☐	☐	☐	☐		
72	*Mini-Cap area [PR 20+50 to PR 27+25]*	☐	☐	☐	☐		
73	*Perimeter road sideslopes [PR 0+00 to PR10+00]*	☐	☐	☐	☐		
74	*Perimeter road sideslopes [PR 10+00 to PR 17+00]*	☐	☐	☐	☐		
75	*Toe stabilization feature [PR 14+50 to PR 16+00]*	☐	☐	☐	☐		
76	*Perimeter road sideslopes [PR 17+00 to 20+50]*	☐	☐	☐	☐		
77	*Agronomic soil samples [Top Area]*	☐	☐	☐	☐		
78	*Agronomic soil samples [North slope]*	☐	☐	☐	☐		
79	*Agronomic soil samples [South slope]*	☐	☐	☐	☐		
80	*Agronomic soil samples [Mini-Cap]*	☐	☐	☐	☐		
81	*Agronomic soil samples [other locations]*	☐	☐	☐	☐		
BENCHMARKS [O&M Manual Section 2.4]							
	KEY INSPECTION ITEMS	Check benchmarks for presence of brass plate and legible markings. Check for frost-heave or movement from other sources. Check for vandalism.					
82	*Monument #902*	☐	☐	☐	☐		
83	*Monument #903*	☐	☐	☐	☐		
GROUNDWATER MONITORING WELLS [O&M Manual Section 2.5]							
	KEY INSPECTION ITEMS	Check the integrity of locks, protective casing, bollards, concrete pad, retaining wall at I-GW-3, and signage. Each monitoring well sign should be legible with the identification number of the well. The lock on the casing should deny access into the well. Verify that no new potable drinking water wells have been installed within the entire Old Base Landfill inspection area.					
84	*V1-GW-9*	☐	☐	☐	☐		
85	*I-GW-1*	☐	☐	☐	☐		
86	*I-GW-3*	☐	☐	☐	☐		
87	*I-GW-4*	☐	☐	☐	☐		
88	*I-GW-6*	☐	☐	☐	☐		
89	*I-GW-8*	☐	☐	☐	☐		
90	*I-GW-9*	☐	☐	☐	☐		
91	*New potable drinking water supply wells*	☐	☐	☐	☐		

AREA OF INSPECTION		INSPECTED	DOES NOT APPLY	ACCEPTABLE	NOT ACCEPTABLE	NOTES AND COMMENTS	PROPOSED CORRECTIVE ACTION
GAS VENTS [O&M Manual Section 2.6]							
	KEY INSPECTION ITEMS	Check for vertical on upper riser pipe. Check rubber coupling for damage. Check upper pipe for damage and legibility of identification number. Verify that geomembrane is not exposed. Remove upper riser pipe from rubber coupling. Inspect lower riser pipe for damage or movement using flashlight and plumb line. Check for subsidence and abnormal vegetative growth around gas vents.					
92	*G-3*	☐	☐	☐	☐		
93	*G-6*	☐	☐	☐	☐		
94	*G-7*	☐	☐	☐	☐		
95	*G-8*	☐	☐	☐	☐		
96	*G-12*	☐	☐	☐	☐		
97	*G-15*	☐	☐	☐	☐		
98	*G-17*	☐	☐	☐	☐		
99	*G-18*	☐	☐	☐	☐		
100	*G-19*	☐	☐	☐	☐		
101	*G-20*	☐	☐	☐	☐		
102	*G-21*	☐	☐	☐	☐		
103	*G-23*	☐	☐	☐	☐		
104	*G-24*	☐	☐	☐	☐		
105	*G-25*	☐	☐	☐	☐		
106	*G-26*	☐	☐	☐	☐		
107	*G-27*	☐	☐	☐	☐		
108	*G-28*	☐	☐	☐	☐		
109	*G-29*	☐	☐	☐	☐		
110	*G-30*	☐	☐	☐	☐		
111	*G-31*	☐	☐	☐	☐		
112	*G-32*	☐	☐	☐	☐		
113	*G-33*	☐	☐	☐	☐		
114	*G-34*	☐	☐	☐	☐		
115	*G-35*	☐	☐	☐	☐		
116	*G-36*	☐	☐	☐	☐		
117	*G-37*	☐	☐	☐	☐		
118	*G-38*	☐	☐	☐	☐		
119	*G-39*	☐	☐	☐	☐		
120	*G-40*	☐	☐	☐	☐		
121	*G-41*	☐	☐	☐	☐		
122	*G-42*	☐	☐	☐	☐		
123	*G-44*	☐	☐	☐	☐		
124	*G-45*	☐	☐	☐	☐		

	AREA OF INSPECTION	INSPECTED	DOES NOT APPLY	ACCEPTABLE	NOT ACCEPTABLE	NOTES AND COMMENTS	PROPOSED CORRECTIVE ACTION
PERIMETER ROAD [O&M Manual Section 2.7]							
	KEY INSPECTION ITEMS	Inspect the perimeter road for washouts, slides, road blockage, excessive rutting, soft pumping areas, poor drainage areas, condition of road surface, frost-heave damage, and water migrating off the landfill cap outside of designated channels. Check the perimeter road outside sideslopes from PR 21+00 through PR 28+73 [Sever Lane] to the Perimeter Road Gate. Check vegetation in mycorrhizae grass area PR 23+50 to PR 27+00.					
125	*Station 0+00 to 10+00*	☐	☐	☐	☐		
126	*Station 10+00 to 17+00*	☐	☐	☐	☐		
127	*Station 17+00 to 28+73 [at Sever Lane]*	☐	☐	☐	☐		
128	*Mycorrhizae vegetation area [PR 23+50 to PR 27+00]*	☐	☐	☐	☐		
129	*From Sever Lane past Sta 0+00 to Perimeter Road Gate*	☐	☐	☐	☐		
SPOILS PILE [O&M Manual Section 2.8]							
	KEY INSPECTION ITEMS	Check for slope stability and developing erosion problems. Check vegetative cover for coverage and successful growth. Trees and woody plants are acceptable on the Spoils Pile itself.					
130	*Spoil Pile and adjacent area*	☐	☐	☐	☐		

Notes: _____

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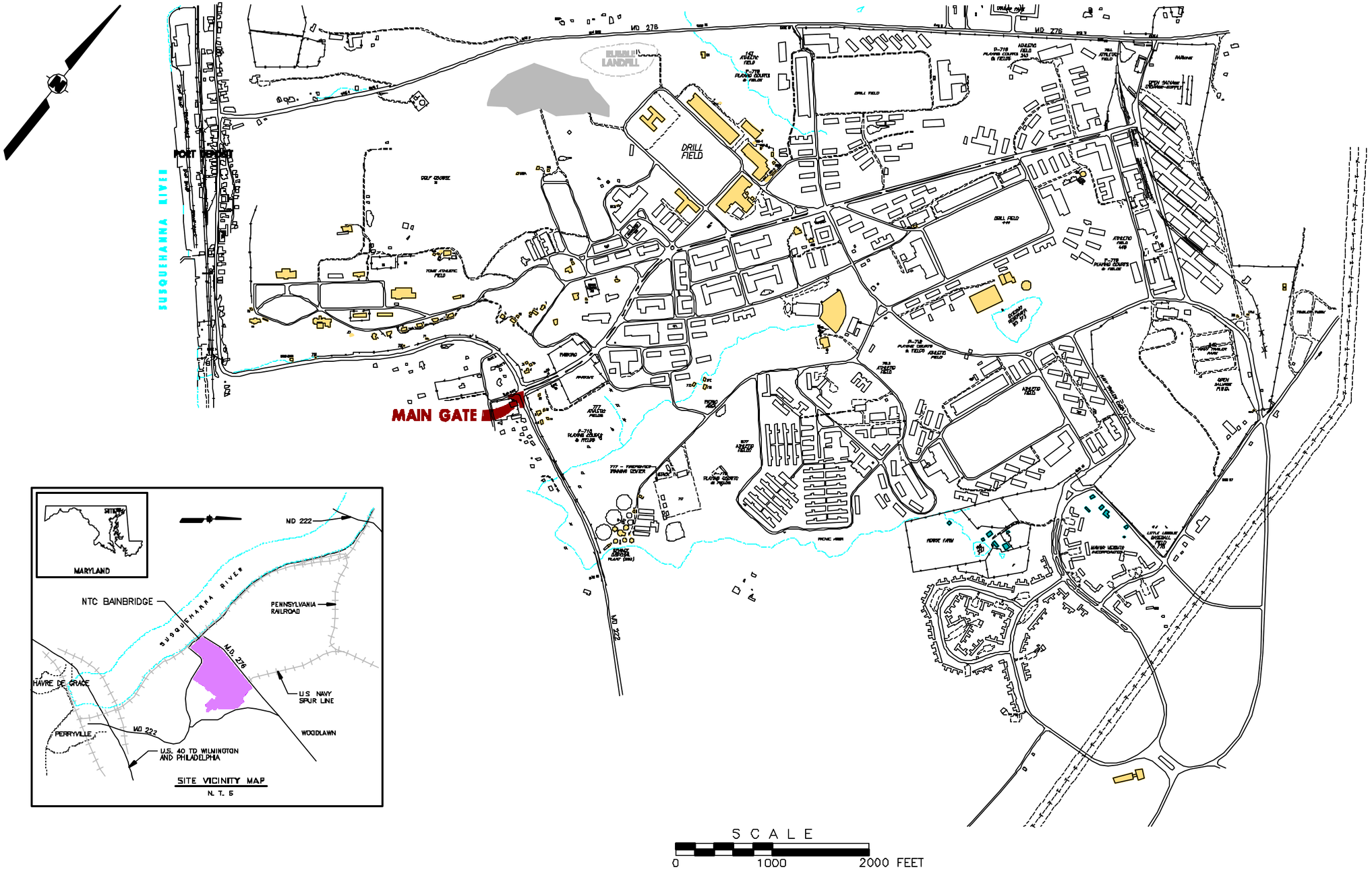
_____
Printed Name and Signature of Inspector / Date

IMAGE	X-REF	OFFICE	DRAWING NUMBER
---	---	PGH	20084-B3



DATE: 1-28-99
TIME: 4:00 PM
FORMAT REVISION 12/24/98

REVISIONS				
REV	DATE	BY	CHK'D	APP'D	DESCRIPTION/ISSUE

DESIGNED BY		
DRAWN BY	W WARNICK	12/13/99
CHECKED BY	E.CINTRA	12/17/98
APPROVED BY	L Stasonis	12/17/98
PROJECT NO.	20084	DRAWING NO. 20084-B3

OHM Remediation Services Corp.

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON D.C.
NAVAL STATION
EFA - CHESAPEAKE
NAVAL TRAINING CENTER - BAINBRIDGE
PORT DEPOSIT, MARYLAND
OLD LANDFILL - O & M GUIDE

SITE LOCATION MAP

SCALE: AS SHOWN	SIZE: B
DELIVERY ORDER NO: 168	
CONSTR CONTRACT NO: N62470-93-D-3032	
NAVFAC DRAWING NO.: N/A	

FIGURE 1

IMAGE | X-REF | OFFICE | DRAWING NUMBER
--- | --- | PGH | 20084-B4

DIVERSION D INLET
DIVERSION D PIPE
FENCE
ROUTE 276 CULVERT
ROCK SLOPE STABILIZATION
VEHICLE GATE
LATERAL NO.6
LATERAL NO 5
LATERAL NO.4
LATERAL NO.3
CULVERT NO.4
MARYLAND ROUTE 276
WESTERN CHANNEL
PERIMETER ROAD
G-18
LOWER PIPE
RUBBLE LANDFILL
WETLAND CELL B
LATERAL NO.7
LATERAL NO.8
I-GW-3
G-17
AREA INLET NO.4
LOWER BERM
CULVERT NO.4
G-28
LATERAL NO.'S 7&8
SCOUR HOLE
LOWER PIPE
G-8
G-30
UPPER BERM
LATERAL NO.2
FORESTED WETLAND CELL A
BM903
I-GW-9
I-GW-8
G-12
G-21
G-25
G-34
G-38
G-29
UPPER PLUNGE POOL
CULVERT NO. 2
OUTLET STRUCTURE
CULVERT NO. 2
G-7
SOUTHWEST DRAIN PIPE
G-33
G-37
G-41
OUTLET RISER
RIP-RAP
G-3
G-20
G-24
LOWER STILLING BASIN
UPPER PIPE
G-5
G-28
G-15
G-32
UPPER PIPE
G-40
NORTH INLET
AREA INLET 2-1
G-19
G-23
G-36
DITCH NO. 3
AREA INLET 2-2
G-45
G-44
G-27
CULVERT NO.3
AREA INLET NO.1
SOUTHEAST OLD ANCHOR TRENCH
VELOCITY DISSIPATOR (FOR CULVERT 3)
I-GW-6
AREA INLET 2A-1
G-31
G-39
I-GW-4
OUTLET RISER
CULVERT 2A
G-35
G-42
I-GW-1
BM902
MANHOLE 2A-2
UPPER STILLING BASIN
SOUTHERN SWALE
CULVERT 2A SCOUR HOLE
SOUTHWEST ANCHOR TRENCH
CULVERT NO. 1
PERIMETER ROAD
SOUTHERN CHANNEL
DITCH NO. 1
SEVER LANE
SPOILS AREA
SOUTH INLET
GATE
MANHOLE
24" HDPE PIPE
GATE
SWALE F
DIVERSION A PIPE
OUTLET APRON
CAMP ROGERS DRILL FIELD
OLYMPIC CIRCLE
146
101
OUTLET APRON
DIVERSION B PIPE

LEGEND:
- G-6 — GAS VENT
- BM903 — SURVEY MONUMENT
- I-GW-6 — MONITORING WELL
- PIPE CLEAN OUT
- RIP-RAP

SCALE
0 200 400 FEET

DATE: 1-28-99
TIME: 4:00 PM
FORMAT REVISION 12/24/98

REVISIONS

REV	DATE	BY	CHK'D	APP'VD	DESCRIPTION/ISSUE

DESIGNED BY
DRAWN BY M.WARNICK 12/15/99
CHECKED BY E.CINTRA 12/17/99
APPROVED BY L.STEARNS 12/17/99
PROJECT NO 20084
DRAWING NO 20084-B4

CHM Remediation Services Corp.

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON, D.C.
NAVAL STATION
EFA - CHESAPEAKE
NAVAL TRAINING CENTER - BAINBRIDGE
PORT DEPOSIT, MARYLAND
OLD LANDFILL - O & M GUIDE
SITE FEATURES

SCALE: AS SHOWN
SIZE: B
DELIVERY ORDER NO 0168
CONSTR CONTRACT NO N62470-93-D-3032
NAVFAC DRAWING NO. N/A

FIGURE 2